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## LIST OF DEFINITIONS

**Air Draft** – The maximum height of a vessel above the waterline.

**Apron** – Area immediately adjacent to the vessel berth where lines, provisioning, gangway, and other operations occur.

**Beam** – The width of a vessel at its widest part.

**Berth** – (1) An anchorage or dock space for a vessel in port; or (2) A bed, generally attached to the deck and/or bulkhead onboard a cruise vessel.

**Break-Bulk Cargo** – General cargo or goods such as steel rebar or pipes that must be loaded/unloaded and handled individually or in pre-determined modular quantities (e.g., pallets). Break-bulk cargo is not handled in intermodal shipping containers or in bulk quantities as would be the case with petroleum, grain, and cement, for example.

**Bunker/Bunkering** – Marine fuel used for propulsion. The act of delivering marine fuel to a vessel.

**Capacity** – The number of units (passengers, berths, containers, gallons, tons, etc.) that a given area or space can handle at a given time.

**Coastal High-Hazard Area (CHHA)** – The CHHA is defined as the Category 1 and 2 Hurricane Evacuation Zones, as shown on the "Flood Plains, Flood-Prone Areas and Coastal High-Hazard Areas" map in the Broward County Land Use Plan Map Series.

**Container** – A box for transporting cargo constructed to withstand transportation stresses, which allows for the intermodal movement among ships, railroads, and highway trucks.

**Container (Gantry) Crane** – A dockside crane, also called gantry crane, mounted on rails and designed to transfer containers to and from ships. Standard container cranes have a moveable boom that is stored in an up position when idle and is lowered into a horizontal position when in use. Low-profile container cranes usually have a horizontal boom that shuttles in and out over the ship, allowing for a structure of minimum height.

**Containerized Cargo** – Cargo that is carried in containers.

**Container-on-flat-car** – A container mounted directly to a specially designed railroad flat car.

**Daily Cruise** – Term applied to vessel service transporting passengers, vehicles, or cargo from point to point. The key difference between daily cruises and multiday cruises is that daily cruises offer transportation services as their primary business focus and return to the port of origin the same day they depart.

**Deepwater Port** – Port listed in Sections 403.021(9) and 311.09(1), Florida Statutes (FS).

**Development of Regional Impact** – Any development that, because of its character, magnitude, or location, would have a substantial effect on the health, safety, or welfare of citizens of more than one county. Developments in Broward County, which exceed threshold standards in Chapter 380, FS must prepare an Application for Development Approval to be coordinated by the South Florida Regional Planning Council and adopted by the affected local government.

**Draft** – The depth of water required by a vessel to float; the measurement in feet (or meters) of the extent to which the vessel projects below the surface of the water.

**Dry Bulk** – Commodity cargo that is transported in unpackaged, non-standardized, non-liquid granular form, usually in large quantities (e.g., cement, bauxite, coal, etc.).

**Florida Seaport Transportation and Economic Development (FSTED) Council** – A funding program created by state statute to finance port facility projects that improve the movement and intermodal transportation of cargo and cruise passengers.

**Foreign Trade Zone** – A site in or near a U.S. Customs port-of-entry where all merchandise is considered to be in international commerce, outside U.S. Customs territory, and duties on merchandise can be deferred, reduced, or in some cases eliminated. Port Everglades is designated as Foreign-Trade Zone #25.

**Ground Transportation Area (GTA)** – Zone in which vehicles, including buses, taxis, and private cars, are organized and accessed as part of cruise terminal/destination embarkation and disembarkation activities.

**Homeport** – A marine facility and destination locality that serves as the base of operations from which a multiday or daily cruise begins and/or terminates. Also referred to as a turnaround port.

**Hurricane Vulnerability Zone** – The areas (hurricane evacuation areas and mobile home parks) delineated by the regional or local evacuation plan as requiring evacuation.

**Intracoastal Waterway (ICW)** – Navigable waterway between Maine and Key West, the use of which is regulated by Section 4, Rivers and Harbors Act of August 8, 1917. The U.S. Department of the Army, Jacksonville District, Corps of Engineers, and the U.S. Coast Guard, Seventh District are responsible for the enforcement of federal regulations in the ICW from Fernandina to Key West, Florida.

**In-Water Facility** – In-water facilities serving waterborne commerce include ship berths, bulkheads, wharfs, piers, harbors, turning basins, and navigable channels.

**Intermodal Container Transfer Facility (ICTF)** – A rail yard that facilitates the transfer of cargo containers between ships, highway trucks, and railroad cars.

**Lay-In** – To berth in a harbor or port for the purpose of storage or repairs, but not to transfer cargo; also, the name of the berth.

**Length Overall (LOA)** – Total length of a vessel in feet (or meters), including any incidental structure that may extend this dimension.

**Lift-on/Lift-off** – Containers and cargo lifted on and off ships by cranes.

**Liquid Bulk** – Free-flowing liquid cargoes, such as gasoline, jet fuel, crude oil, liquefied natural gas, industrial chemicals, etc. that are typically transported in large quantities via tanker vessel and stored in tanks at or near ports for distribution/consumption.

**Liquefied Natural Gas (LNG)** – A natural gas that has been cooled down to a liquid state (about -260 degrees Fahrenheit) to significantly reduce the volume of natural gas for shipping and storage. LNG is a cleaner burning fossil fuel that significantly reduces harmful emissions compared to conventional marine fuels.

**Marine Terminal** – Facility, including storage yards as well as associated buildings, where cargo handling activity occurs, usually within a physically defined and secure (i.e., gated) area.

**Multi-Day Cruise** – Leisure-oriented voyages on deep-water, ocean-going cruise vessels of two or more nights, often to a variety of destinations or ports of call. Multiday cruises are offered either by regional or international operators marketing to a variety of consumer sectors and nationalities.

**Panamax** – Vessels classified as Panamax are of the maximum dimensions that will fit through the original locks of the Panama Canal (304 meters [998 feet] long by 33.5 meters [110 feet] wide by 25.9 meters [85 feet] deep). Thus, a Panamax vessel will usually have dimensions of close to 294 meters (965 feet) long by 32.3 meters (106 feet) wide by 12.5 meters (40 feet) in depth.

**Peak (or Peaking)** – Period of greatest intensity of use or volume. Port Everglades' peak days for cruise activity, for example, are Saturday and Sunday since those are the days that, on average, see the greatest number of cruise ship calls and/or passenger disembarkations during a given cruise season.

**Port Jurisdictional Area (PJA)** – The Port Everglades PJA is defined by Chapter 59-1157, Laws of Florida, as amended.

**Port of Call** – A destination visited as part of a cruise itinerary. The focus of the port of call is on tourism activities adjacent to the cruise arrival area and the transportation of passengers to regional points of interest. This can also be referred to as a downstream destination.

**Port Tariff** – A document, such as that adopted by the Broward County Board of County Commissioners and filed with the Federal Maritime Commission, which describes port facilities,

establishes rules and regulations governing the use of port facilities, and sets fees for dockage, wharfage, terminal storage, gantry cranes, container yards, and port services.

**Post-Panamax** – Size standard that exceeds the largest vessel dimension capable of transiting the original Panama Canal locks (304 meters [998 feet] long by 33.5 meters [110 feet] wide by 25.9 meters [85 feet] deep). These measurements are generally based on the beam and LOA of the vessel.

**Project Depth** – The maintained depth of navigable waters, as determined by the United States Army Corps of Engineers.

**Revenue Passenger** – This generally refers to homeport passengers or, in some very limited cases, port-of-call passengers, whereby passenger counts reflect the port's passenger wharfage or tariff rate charging policy. For homeport calls, the actual number of passengers is doubled to show that the cruise operator is charged by the port for the passenger embarking/disembarking the vessel at a set fee.

**Roll-on/Roll-off (RORO)** – Maritime term for RORO cargo such as passenger vehicles, tractor trailers, buses, railcars, etc. that are driven on and off a ship under their own power or using a platform vehicle, such as a truck and trailer or self-propelled modular transporter.

**Shore Power** – A process that allows ships in port to connect to the local electrical grid and shut down their engines, which can help to reduce emissions in port cities.

**Stevedore** – A business which specializes in managing vessel loading and unloading (cargo) operations and/or passenger embarkation/disembarkation activity at a port.

**Strategic Intermodal System (SIS)** – Florida's high priority network of transportation facilities important to the state's economy and mobility as deemed by the Florida Department of Transportation (FDOT).

**Super-Post Panamax** – Generally, refers to the largest vessels in existence today. These vessels are defined not only by their dimensions, but also their carrying capacity (i.e., 3,000+ passengers for cruise and 12,000-14,000+ twenty-foot equivalent units [TEUs] for container ships).

**Terminal Operator** – Entity with primary responsibility for managing marine/cruise terminal and related operations, usually under contract to a public port authority or other public or quasi-public ownership interest.

**Twenty-foot Equivalent Unit (TEU)** – Unit of cargo used to describe the capacity of modular container ships and container terminals. It is based on the volume of a 20-foot-long (6.1 meter) intermodal container, which is the historical standard metal container used in container shipping. Most containers in use today are forty-foot equivalent units; however, TEU remains the standard unit of measurement.

**Throughput** – The quantity of cargo and/or passengers that passes through a port; usually measured in tons (bulk cargo), gallons per day (liquid bulk cargo), TEUs (containers), car-equivalent units (automobiles) or revenue passengers (cruise).

**Trailer-on-flat-car** – A railroad flat car used to transport highway cargo trailers.

**Use Ratio** – The ratio of days that a berth is occupied to available berth days (total calls/total available berth days). For example, in a year-round market, a single berth is theoretically available for a total of 365 days. If that berth receives 52 calls (one vessel sailing weekly round-trip itineraries year-round) then its use ratio is .142, or 14.2 percent (52/365).

**Wharf** – A structure built on the shore of a harbor to berth ships; when extending along the shoreline, it is known as a marginal wharf; when extending into deep water, it is also known as a pier.

## LIST OF ACRONYMS

AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
BCAD	Broward County Aviation Department
CHHA	Coastal High Hazard Area
CIP	Capital Improvement Program
DRI	Development of Regional Impact
ECT	Everglades Company Terminal
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FECR	Florida East Coast Railway
FFWCC	Florida Fish and Wildlife Conservation Commission
FIHS	Florida Intrastate Highway System
FIT	Florida International Terminal
FLL	Fort Lauderdale-Hollywood International Airport
FPL	Florida Power and Light
FS	Florida Statutes
FSTED	Florida Seaport Transportation and Economic Development
FTO	Florida Traffic Online
FY	Fiscal Year
GPD	Gallons Per Day
GTA	Ground Transportation Area
ICTF	Intermodal Container Transfer Facility
ICW	Intracoastal Waterway
IJA	Infrastructure Investment and Jobs Act

LNG	Liquefied Natural Gas
LOA	Length Overall
MHHW	Mean Higher High Water
M/VP	Master/Vision Plan
NCA	National Climate Assessment
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
ODMDS	Ocean Dredged Material Disposal Site
PED	Port Everglades Department
PEDD	Port Everglades Development District
PEECO	Port Everglades Environmental Corporation
PJA	Port Jurisdictional Area
PWESD	Broward County Public Works and Environmental Services Department
RORO	Roll-On/Roll-Off
SAV	Submerged Aquatic Vegetation
SIS	Strategic Intermodal System
STS	Ship-to-Shore
SWPPP	Stormwater Pollution Prevention Plan
TBPD	Thousand Barrels Per Day
TEU	Twenty-Foot Equivalent Units
USACE	United States Army Corps of Engineers
USCBP	United States Customs and Border Protection
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

## INTRODUCTION

The Deepwater Port Support Document provides data and analysis used to develop Broward County's goals, objectives and policies specific to Port Everglades. As such, data, tables, and timelines contained in this support document have been updated in accordance with the Master/Vision Plan (M/VP) update adopted in November 2025. The Deepwater Port Component is one of two sub-elements in the Coastal Management Element; the other is the Natural Disaster Component. The component summarizes information in the Port Everglades M/VP, adopted by the Broward County Board of County Commissioners on November 13, 2025, and provides the data and analysis relevant to the Port Everglades service area to fulfill the deepwater port requirements cited in Chapter 163.3178(2)(k), Florida Statutes (FS).

Part I of the Deepwater Port Component describes Port Everglades' Jurisdictional Area (PJA), defines the planning horizons in the Port's M/VP, and provides a list of definitions and acronyms. Part II addresses the data requirements of Chapter 163.3178(2)(k), FS, including inventories of land use, natural resources, areas subject to coastal flooding, historic resources and sites, estuarine pollution sources, beach and dune systems, and Port infrastructure. It also addresses natural disaster planning issues and deepwater port factors. Part II concludes with a presentation of the forecasts for the Port's key business lines—containerized cargo, non-containerized cargo (dry bulk/break-bulk/autos), liquid bulk (petroleum), and cruise—and the specific projects planned over the 5-, 10-, and 20-year periods to provide the capacity needed to meet those forecasts. Part III then analyzes the data presented in Part II in the context of the Port's planned development over the identified planning horizons. Part IV concludes with Deepwater Port Component implementation.

### General Description

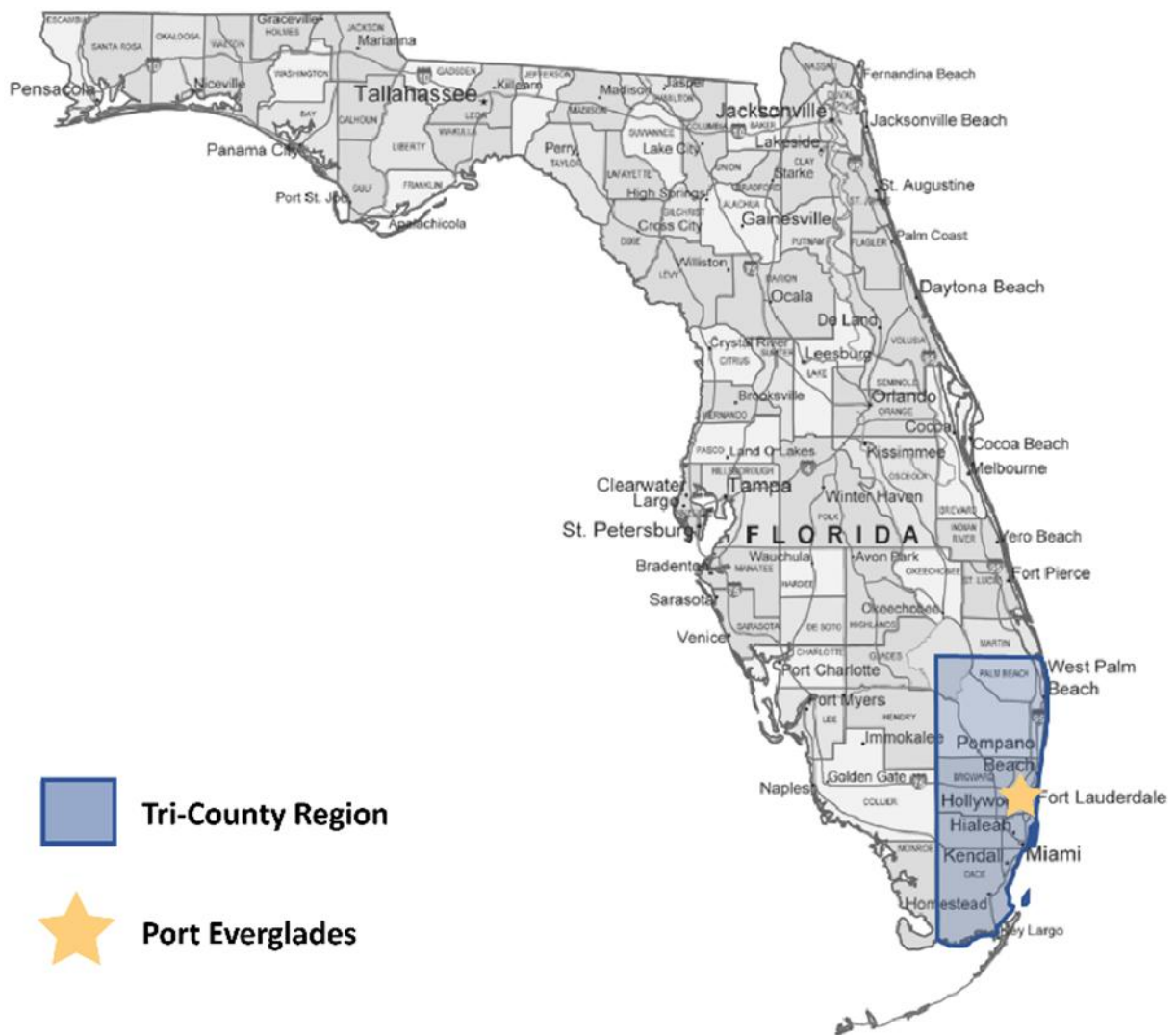
Port Everglades is located on Florida's east coast, 23 miles north of Miami and 312 miles south of Jacksonville. **Figure 1** shows the Port's South Florida location. Port Everglades is one of the deepest ports in Florida and has one of the shortest, straightest entrance channels among the U.S. Atlantic Coast seaports. The Port's outer channel project depth is 45 feet mean low water and the outer channel width is 500 feet. The inner channel and main turning basin project depths range from 31 to 42 feet mean low water. The inner channel is 450 feet wide from a point 1,000 feet within the jetty entrance. From this point, it flares to a width of 1,500 feet at the turning basin. Berth water depths vary up to 42 feet. The main turning basin, which measures 1,200 feet east-to-west and 2,450 feet north-to-south, is 9,000 feet from the ocean sea buoy. The proximity of the main turning basin to the ocean buoy enables ships to dock within a half hour from reaching the ocean buoy, less time than is required at any other Atlantic port. The main turning basin's north extension is 630 to 900 feet wide by 1,150 feet long. The south extension is 1,300 feet by 1,100 feet. The distance from the ocean entrance of the channel to the main turning basin is approximately 1.2 nautical miles.

## Service Area

Port Everglades' PJA encompasses a total of 2,190 acres, which includes 1,742 acres of upland and 448 acres of submerged land. **Figure 2** depicts the PJA and the municipalities. Upland acreage falls in the following municipalities:

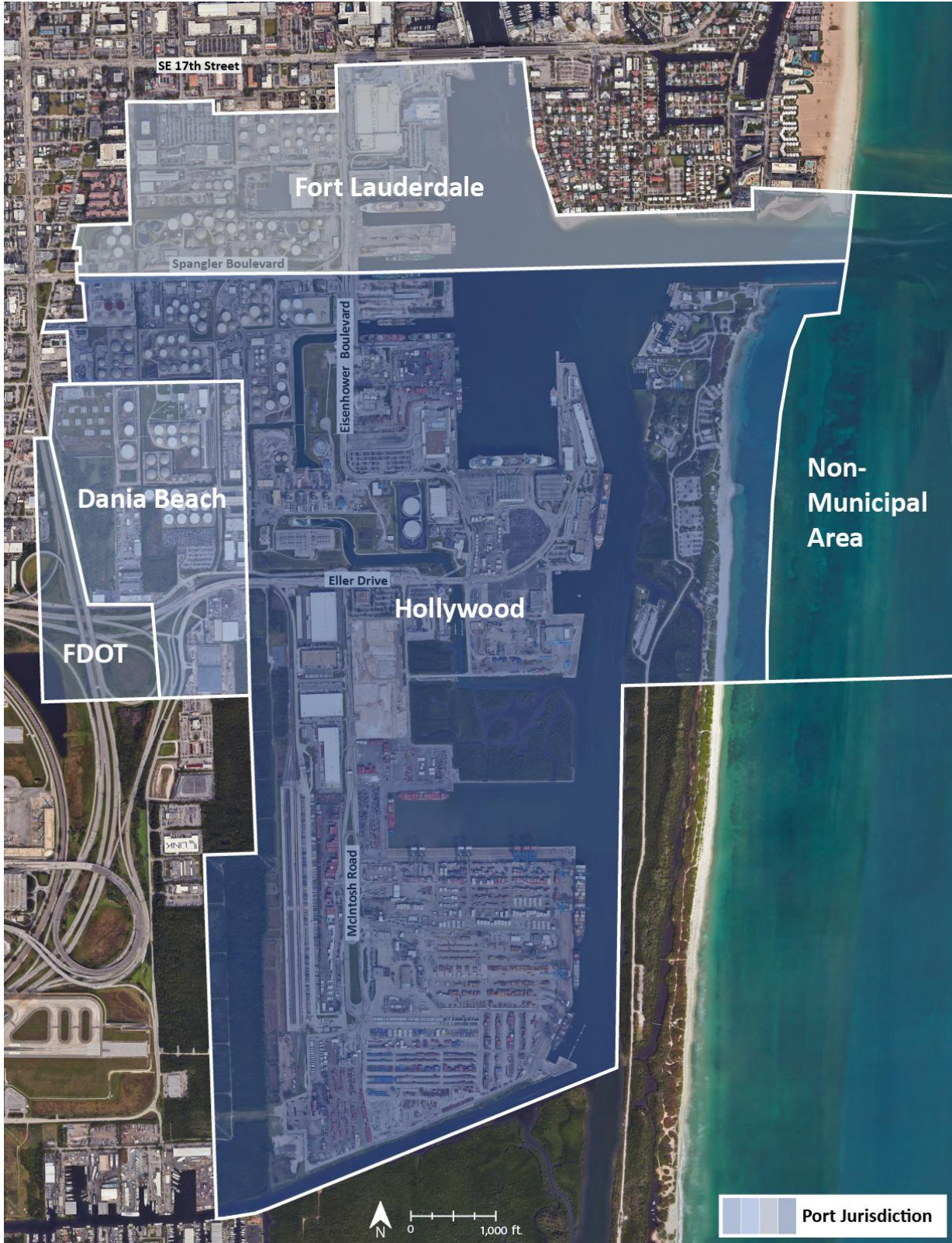
- 1,242 acres or 71.3 percent of the Port is located in the City of Hollywood.
- 232 acres or 13.3 percent of the Port is located in the City of Fort Lauderdale.
- 234 acres or 13.4 percent of the Port is located in the City of Dania Beach.
- 34 acres or 2 percent of the Port is located in unincorporated Broward County.

Figure 1: Port Everglades Location



Source: AECOM.

Figure 2: Port Everglades Jurisdictional Area (PJA)



Source: Port Everglades; AECOM; Google Earth; Note: For planning purposes only.

## Planning Horizons

The short-term (5-year) planning horizon of the Deepwater Port Component is 2030, while the longer-term (10-year) planning horizon is 2035. The Deepwater Port Component projections, Capital Improvement Program (CIP), and adopted Goals, Objectives, and Policies reflect these two planning horizons, incorporating the recommendations of the Port Everglades M/VP, which also looks at the 20-year planning horizon of 2045 and includes projects that are projected to be implemented into 2046 and beyond.

## DATA REQUIREMENTS

The data requirements include inventories of existing land uses, natural resources, areas subject to coastal flooding, historic resources and sites, estuarine pollution sources, beach and dune systems, and infrastructure. This section also addresses natural disaster planning issues and deepwater port factors. This section concludes with a presentation of the Port's proposed maintenance and expansion program to accommodate forecasted growth in demand.

### Inventories of Existing Land Use

This section includes inventories of existing land uses, shoreline uses, water-dependent and water-related uses, and areas in need of redevelopment.

#### General Description

Port Everglades contains three distinct areas, referred to as Northport, Midport, and Southport, which are illustrated in **Figure 3**. The current uses in each of these areas are as follows:

- **Northport**

Northport is bounded by SE 17th Street to the north, Miami Road to the west, 26th Street to the south, and the Intracoastal Waterway (ICW) to the east. The Broward County Convention Center, which is part of an ongoing Development of Regional Impact (DRI) that includes a hotel complex and ancillary facilities, is located at Northport. In addition, Northport contains Berths 1 through 15, Cruise Terminals 2 and 4, and liquid bulk storage facilities.

- **Midport**

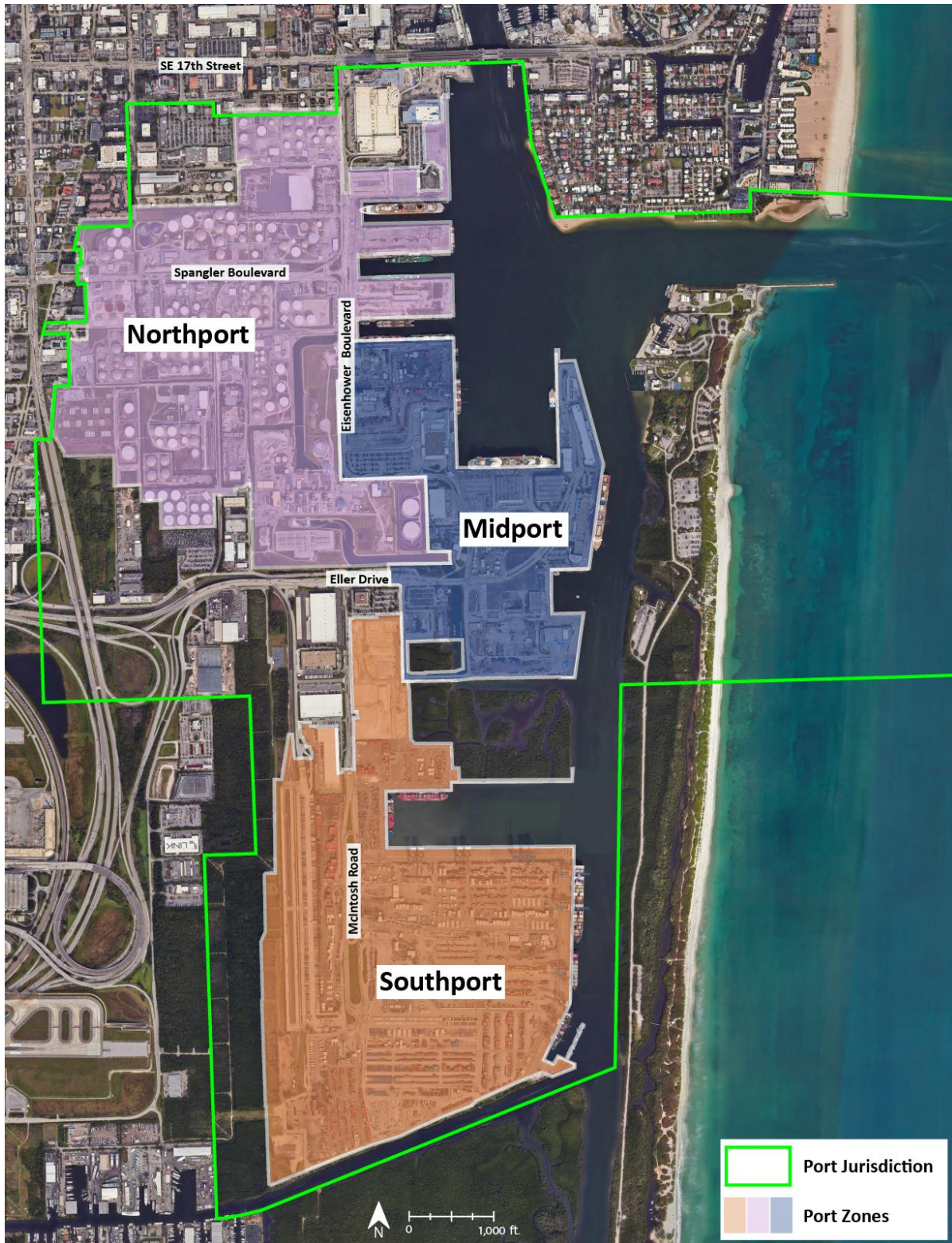
Midport is loosely bounded by 26th Street to the north, U.S. Highway 1 (US-1) to the west, Eller Drive/SE 18th Avenue/SE 19th Avenue to the south, and the ICW to the east. Midport is the Port's main cruise ship berthing area, but also accommodates liquid bulk (petroleum), dry bulk (cement), break-bulk and roll-on/roll-off (RORO) cargo facilities, specifically automobiles. Six multi-day cruise terminals are located in Midport, together with another Port-owned parking garage, the Port Administration building, a Florida Power and Light (FPL) 1.2 gigawatt (1,200-megawatt) natural-gas-fueled Clean Energy Center power station, and Public Safety and other buildings.

- **Southport**

Located approximately between the Turning Notch and the Dania Cut-Off Canal to the east and from Eller Drive to the Dania Cut-Off Canal to the west, is Port Everglades' primary container area, accommodating both lift-on/lift-off and occasional RORO cargo operations. Southport is the area that has experienced most of the Port's containerized cargo growth and is the site of the Florida East Coast Railway's (FECR) near-dock intermodal container transfer

facility (ICTF), which allows containerized cargo to move directly from ship to rail car for improved inland logistics. Southport is also home to the Foreign-Trade Zone building.

Figure 3: Port Everglades Zones

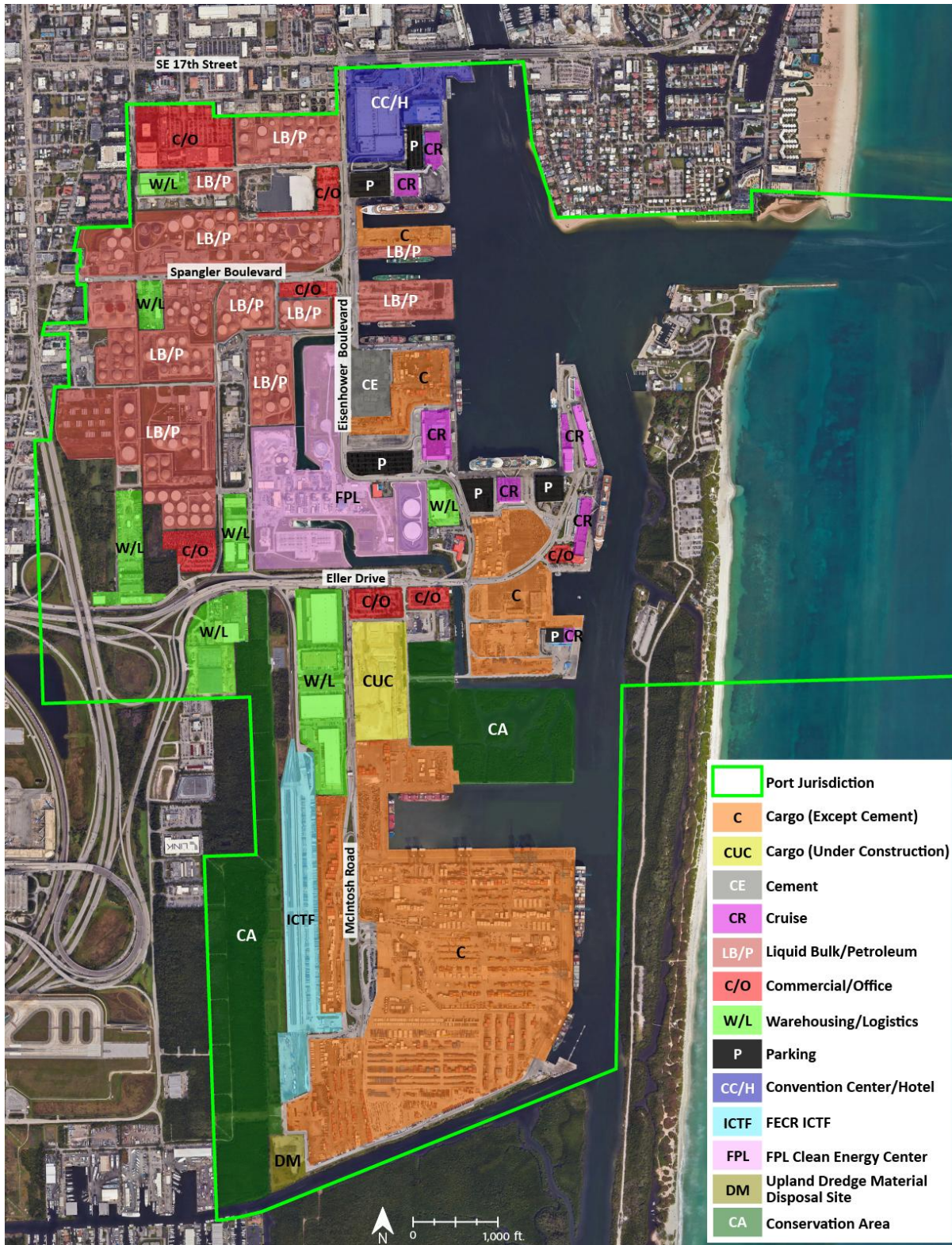


Source: Port Everglades; AECOM; Google Earth; Note: For planning purposes only.

### Inventory of Existing Land Use Coverage

Figure 4 identifies the various Port-related uses in the PJA. The predominant existing land uses are preservation/recreation/water (641 acres or 29.3 percent), liquid bulk (petroleum) storage (339 acres or 15.5 percent), container areas (327 acres or 14.9 percent), and office/commercial (67 acres or 3.1 percent). Other significant uses in the PJA include FPL's Fort Lauderdale power plant, located on 44 acres in Midport and an easement on the western edge of Southport. Several DRIs, adopted pursuant to Chapter 380, FS, are located in the PJA. These include the Port Everglades Petroleum Terminal DRI, and the Mobil Oil DRI. The Northport DRI relates to the construction of a hotel and ancillary facilities adjacent to the Convention Center. Adjacent to the Port is the Fort Lauderdale-Hollywood International Airport (FLL) DRI.

Figure 4: Port Everglades Land Uses (December 2023)



Source: Port Everglades; AECOM; Google Earth; Note: For planning purposes only.

Figure 5 shows grid and lease areas for Port-owned land as of October 2025. The Port Everglades Department (PED) manages 519 acres available for leasing as well as 400,000 square feet of warehouse space and 100,000 square feet of office space. The eight Port-owned cruise terminals include approximately 1,036,000 square feet of passenger-processing and baggage-handling space.

### Inventory of Shoreline Uses

Shoreline uses in the PJA include the following:

- **Transportation Uses**

The Port's primary existing 39 berths used for cargo and cruise operations plus other smaller berths for lay-in and other uses.

- **Institutional Uses**

The United States Naval Surface Weapons Center, the United States Coast Guard (USCG) Station, the Environmental Education Facility, and the Nova Southeastern University Oceanographic Center.

- **Recreational Uses**

A portion of Dr. Von D. Mizell-Eula Johnson State Park, 251 acres of barrier island between the Atlantic Ocean and the ICW, from Port Everglades on the north to Dania Beach on the south.

Figure 6 shows the locations of the Port's primary 39 berths.

### Inventory of Water-Dependent and Water-Related Uses

Water-dependent uses are activities that can be carried out only on, or adjacent to, water areas because the use requires access to the water body. The water-dependent uses in the PJA include the Port's cargo and cruise berths, the Florida Marine Patrol facility located adjacent to the FPL Discharge Canal, and the above-mentioned USCG, U.S. Navy, and Nova Southeastern University facilities in Dr. Von D. Mizell-Eula Johnson State Park. Water-related uses are activities that are not directly dependent on access to a water body, but that provide goods and services directly associated with water-dependent or waterway uses. These include the Port's Foreign-Trade Zone, petroleum storage tanks, offices and warehouses, institutional facilities, and parking garages.

### Areas in Need of Redevelopment

Port Everglades' facility inventory is continuously modified and updated through an ongoing facilities investment and maintenance plan as defined in the Port Everglades 5-Year CIP.

In March 2022, the 13th Biennial Condition Report of Port Facilities (2021 Biennial Report) was developed for Port Everglades. Comprising three volumes, this report documents the results of a comprehensive visual inspection spanning several months, covering Port Everglades' facilities, utilities, cranes, and underwater infrastructures. Specific categories inspected, along with the respective quantities of each facility type, included:

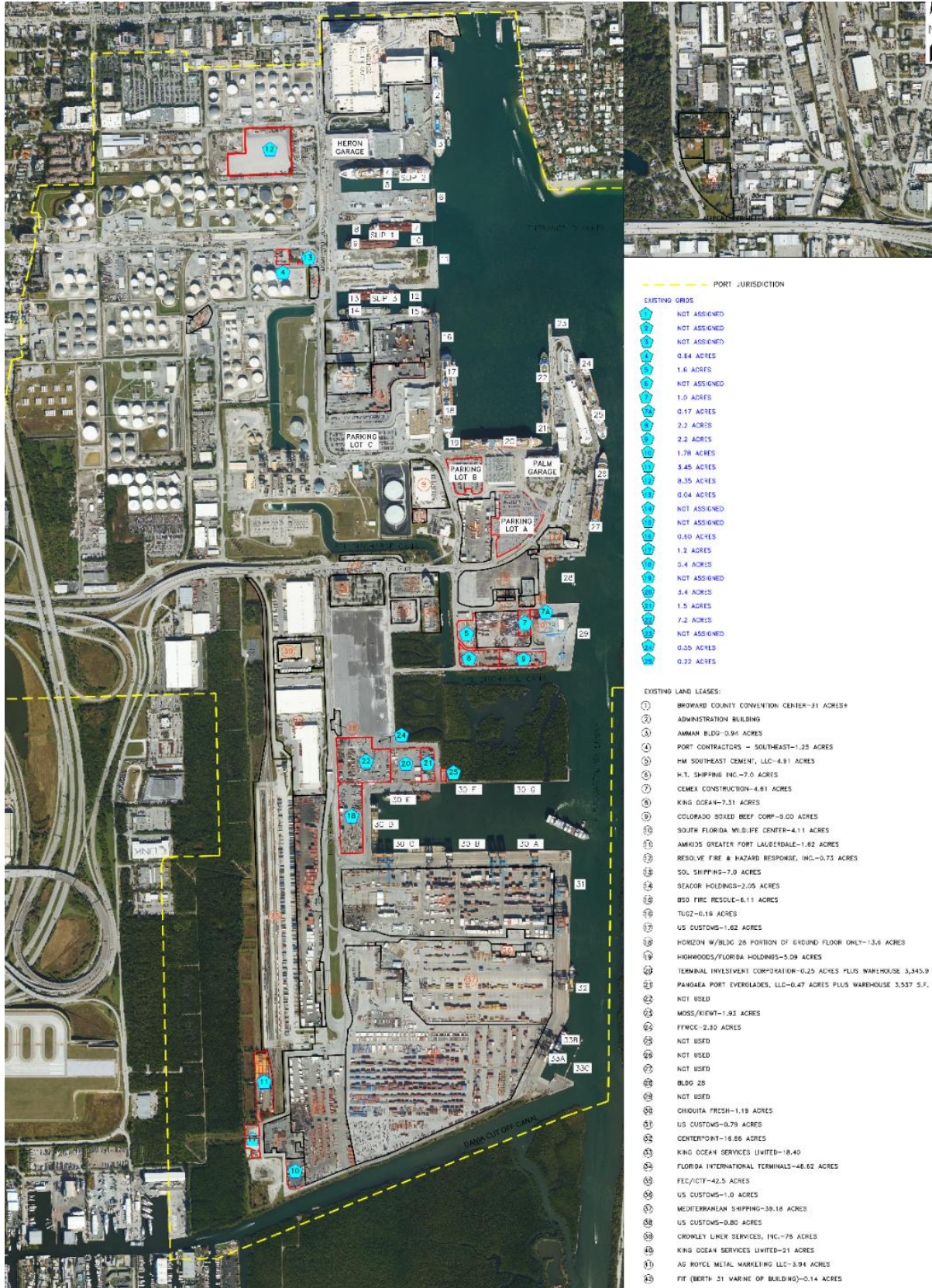
- Buildings – 39
- Open areas – 41
- Lift stations – 31
- Berths – 40

A total of 3,706 individual needs were identified across all four categories of facilities. The necessary repairs and estimated costs associated with addressing these 3,706 issues were identified for these 151 facilities (examined during the 2021 Biennial Report). The cost estimates were categorized based on the following priority levels for corrective actions:

- Immediate – 897
- Moderate – 1,487
- Low – 1,340

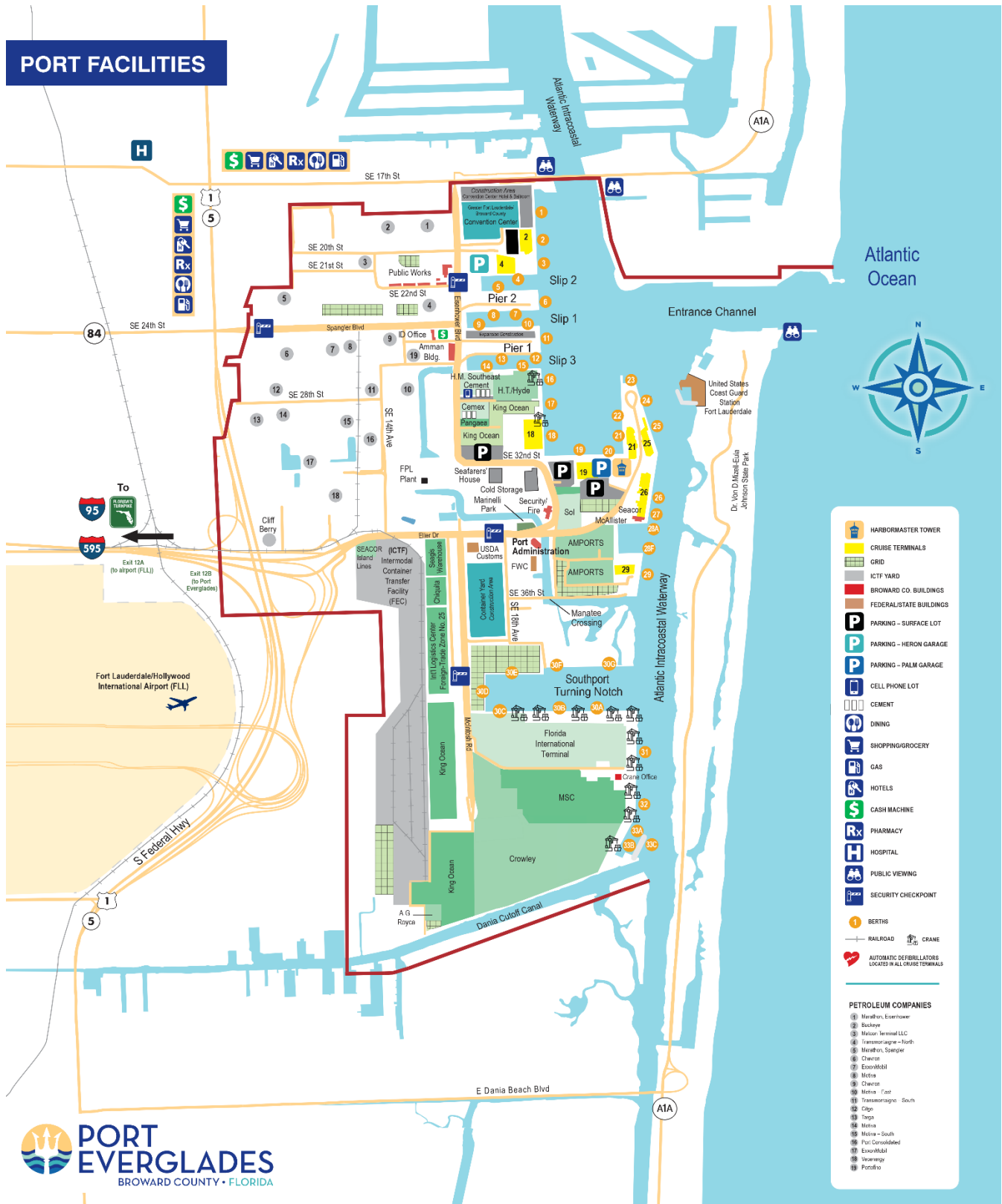
Since completion of the 13th Biennial Condition Report of Port Facilities, Port Everglades' staff have addressed, and continue to address, the issues that were identified. Significant Port facilities are shown in **Figure 6**.

Figure 5: Port Everglades Land Leases and Grid Areas (October 2025)



Source: Port Everglades; Note: For planning purposes only.

Figure 6: Map of Port Everglades Berths and Facilities



Source: Port Everglades; Note: For planning purposes only.

## Inventories of Natural Resources

This section includes inventories of vegetative cover, wetlands, wildlife habitats, living marine resources, and other local natural resources.

### Vegetative Cover, Wetlands, and Wildlife Habitats

**Figure 7** shows locations within the PJA of existing vegetative cover associated with mangrove forest concentrations. This cover includes a mature mangrove stand to the north of the Southport Turning Notch. This area is encumbered by an approximately 66-acre Conservation Easement issued to the Florida Department of Environmental Protection (FDEP). The Port previously obtained FDEP approval to release 8.7 acres of the easement to allow the Southport Turning Notch Expansion project to move forward. Release of this 8.7 acres was contingent upon the Port creating approximately 16.5 acres of new mangrove wetlands located to the southwest of the FPL Discharge Canal (see **Figure 7**). Several other mangrove concentrations in the PJA are also shown on **Figure 7**. In addition, Port entrances, roadways, office buildings, passenger terminals, and parking facilities are landscaped with native and ornamental plant species.

### Listed Species

Portions of the PJA serve as habitat for various listed species including:

- West Indian manatee (*Trichechus manatus*).
- Johnson’s seagrass (*Halophila johnsonii*).
- Three primary species of sea turtles—loggerhead (*Caretta caretta*), green (*Chelonia mydas*), and leatherback (*Dermochelys coriacea*).
- Wood stork (*Mycteria americana*).
- Small-toothed sawfish (*Pristis pectinata*).
- Least tern (*Sterna antillarum*).
- American crocodile (*Crocodylus acutus*)
- Elkhorn coral (*Acropora palmata*).
- Staghorn coral (*Acropora cervicornis*).

A more complete inventory of listed species is presented in Table 1.10.1 of Element 1 of the 2024 Port Everglades M/VP Update.

Figure 7: Natural Resources within the PJA



Source: Bermello, Ajamil & Partners, Inc.

The waters surrounding Port Everglades serve as a habitat for the Florida manatee (*Trichechus manatus latirostris*), a subspecies of the West Indian manatee (*Trichechus manatus manatus*). The Florida Manatee Sanctuary Act of 1978 established the entire state of Florida as a “refuge and sanctuary for the manatees,” and allowed for the enforcement of boat-speed regulations in manatee-designated protection zones. The Florida Manatee Recovery Plan was developed as a result of the Endangered Species Act (ESA). The recovery plan is coordinated by the United States Fish and Wildlife Service (USFWS) and sets forth a list of tasks geared toward recovering manatees from their current endangered status. The Florida manatees in the U.S. are protected under federal law by the Marine Mammal Protection Act of 1972, and the ESA of 1973, which make it illegal to harass, hunt, capture, or kill any marine mammal. Florida manatees are also protected by the Florida Manatee Sanctuary Act of 1978. Violations of these federal or state laws can be met with civil or criminal convictions associated with monetary fines and/or imprisonment.

In 2016, the Florida manatee was downgraded from endangered to threatened, following a recent population increase. Manatee protection plans have been developed to ensure the long-range protection of the manatee species and their habitat. The Broward County Manatee Protection Plan implements additional manatee protection measures throughout the county's waterways that are accessible to manatees, including:

- Increased law enforcement
- Manatee monitoring
- Education and awareness

Port Everglades is one of about two dozen manatee wintering sites designated as manatee protection zones and is the second-largest manatee aggregation area in Broward County. To protect the manatees, this area was designated Manatee Essential Habitat. Broward County's Comprehensive Plan prohibits the construction of new marinas or expansion of existing marinas, docking facilities, and boat ramps, except those related to law enforcement, within Manatee Essential Habitat Areas.

Broward County is regularly frequented by three species of sea turtles: loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*). It occasionally sees the hawksbill sea turtle (*Eretmochelys imbricata*) and Kemp's ridley sea turtle (*Lepidochelys kempii*), all of which are protected under the ESA. The loggerhead sea turtle is listed as threatened, while the green sea turtle and Kemp's ridley sea turtle are still endangered. Sea turtles rely on coastal beaches in Florida for nesting, typically between the months of May and October. The locations of these wildlife habitats in the PJA are shown in **Figure 7**; however, not all of these areas have been designated as critical habitat for these species under federal or state regulations.

In 2014, critical habitats in offshore waters and on nesting beaches were established by the USFWS and the National Marine Fisheries Service (NMFS). Sea turtles occasionally enter the PJA, and as such,

the Port is working with the Florida Fish and Wildlife Conservation Commission (FFWCC) and USFWS to minimize impacts to adjacent nesting beaches by embarking on a Port-wide exterior lighting master plan to include installing shields on garage lights and use of high mast “turtle friendly” LED lighting. In addition, the Port is reviewing necropsy reports to determine the source of mortality, and is evaluating tree screening, false crawls, and hatchling disorientation.

Migratory shorebirds, such as least tern (*Sterna antillarum*), are seasonally present in Broward County. The least tern breeds along beaches up and down the eastern coast of the United States including those of Broward County. Other species of shorebird like the black skimmer (*Rynchops niger*) have also been reported to occasionally nest on rooftops. The State of Florida listed this species as threatened in 2011.

#### *Wildlife Habitat*

In addition to listed species such as manatees and sea turtles, the waters and lands in and around Port Everglades provide habitat for a variety of other plant and animal wildlife. Numerous species of mammals, fish, and birds take refuge in the mangroves, canals, and trees that surround the Port. The waters to the south of the Port, including the waters bordering West Lake Park and the Dania Cut-Off Canal, are considered essential fish habitat under the Magnuson-Stevens Fishery Conservation and Management Act of 2002 (67 FR 2343).

#### *Living Marine Resources*

Portions of the PJA support live corals and seagrasses, in addition to providing shelter for fish, invertebrates, and other juvenile marine organisms. Marine game fish such as snook, tarpon, barracuda, and jacks also share the coastal habitat; however, land-based fishing is not permitted on Port property in the PJA.

#### *Coral*

Port Everglades’ outer entrance channel is comprised of a nearshore ridge complex and an inner, middle, and outer reef system that run parallel to shore. The nearshore hard-bottom (occurring in 0-12 feet of water) acts as habitat for algae, sponges, encrusting octocorals, and hard corals. The three further seaward reefs provide habitat for various hard-bottom communities and exhibit live growth, with turf algae being the most dominant, followed by macro-algae, sponges, octocorals, scleractinia, zonathids, and tunicates. This marine habitat is also regulated by federal, state, and county environmental protection agencies (see May 2015 Final Environmental Impact Statement). Two *Acropora* coral species, staghorn coral (*A. cervicornis*) and elkhorn coral (*A. palmata*) were listed in 2006 as threatened under the ESA, and critical habitat was designated in 2008, a part of which includes the outer edge of the Port Everglades entrance channel. Broward County has some of the largest densities of staghorn coral within the U.S., and some recent surveys by the National Coral Reef Institute (2013) have identified 28 new patches that may more than triple the amount of previously documented staghorn. In 2014, The National Oceanic and Atmospheric Administration (NOAA) listed five more

Florida Atlantic Coast corals as threatened: *Dendrogyra cylindrus*, *Mycetophyllia ferox*, *Orbicella annularis*, *Orbicella faveolata*, and *Orbicella franksi*.

### Seagrass

Seagrasses have been surveyed throughout the Port Everglades vicinity on numerous occasions. Three species of seagrass were observed in the marine environment surrounding Port Everglades during a 2009 survey, including Johnson's seagrass (*Halophila johnsonii*), paddle grass (*Halophila decipiens*), and shoal grass (*Halodule wrightii*). Johnson's seagrass is a threatened species that was listed under the ESA on September 14, 1998, and was designated critical habitat by the NMFS on April 5, 2000. Seagrasses are important benthic resources that provide a food source for threatened West Indian manatees and endangered green sea turtles and provide shelter and nursery habitat for many other marine species. Seagrass prefers to grow in shallow-water lagoons in the intertidal zones of coastal habitats and requires adequate sunlight to survive. Any event that reduces water clarity has the potential to reduce the amount of penetrable light reaching seagrasses, damaging beds or killing the plants. High channel flow, ship prop wash, or storm runoff may contribute particles that reduce water clarity. Also, dissolved nutrients contributed by canals, storm runoff, sewage, or industrial discharges may fuel the growth of algae. High concentrations, or blooms, of phytoplankton (microscopic single-cell algae), particularly, can reduce the amount of light reaching seagrass beds. Phytoplankton blooms driven by nutrient pollution have been a significant factor in the reduction of seagrass beds in Florida coastal waters over the last 50 years. Seagrass beds can also sustain physical damage from boat propeller scarring and dredging.

Adverse impacts to seagrasses are regulated in the same manner as mangroves, and other coastal wetland plants, by Federal, State, and County environmental protection agencies.

### Other Natural Resources

Today, the dominant plant species along the Port's waterways include salt-tolerant plants such as red mangroves (*Rhizophora mangle*), white mangroves (*Laguncularia racemosa*), and black mangroves (*Avicennia germinans*). These wetland plants serve as important habitats for marine life, such as juvenile and adult manatees, fish, crustaceans, mollusks, bird species, and occasionally American crocodiles. The mangroves surrounding this area provide valuable natural habitat and are a protected wetland resource in Broward County. The United States Army Corps of Engineers (USACE), FDEP, South Florida Water Management District, and Broward County Public Works and Environmental Services Department (PWESD) regulate dredging and filling activities within the area. It is the purpose and intent of these agencies to ensure there will be no net loss in the function and value of existing wetland habitats. Therefore, any adverse impacts to existing mangroves are regulated by avoidance and minimization, followed by mitigation to offset unavoidable impacts. In 2016, Port Everglades received a Notification of Trending Towards Success from FDEP for successfully cultivating approximately 16.5 acres of nursery-grown mangrove and native plants on property that was originally dry land but was intended for other uses. As part of ongoing wetland enhancement and restoration

efforts at Port Everglades, the Port also created a 25-acre wetland, inclusive of 160,000 red mangroves, at Dr. Von D. Mizell-Eula Johnson State Park.

## Areas Subject to Coastal Flooding

As part of the critical infrastructure of Broward County, the Port will implement the Broward County Climate Change Element adopted into the Broward County Comprehensive Plan. The goals and policies in this element provide specific direction to local government agencies, including the Port, on critical issues to address in the context of climate change, including action items that affect immediate planning at the Port. To evaluate the eventual effects of global climate change on the Port's shoreline, PWESD and local municipalities are working on several initiatives that will be considered in the evaluation of future developments at Port Everglades.

The Southeast Florida Regional Climate Change Compact, a collaborative between Broward, Palm Beach, Miami-Dade and Monroe Counties, updated the unified regional projection in 2020. The unified sea level rise projection is to be used for planning purposes to aid in understanding of potential vulnerabilities and to provide a basis for developing risk-informed adaptation strategies for the region. In the near term, sea level rise is projected to be 10 to 21 inches above the 2000 mean sea level by 2040 and 40 to 136 inches of SLR by 2120.

## Inventory of Historic Resources

The term "historic resources" refers to all areas, districts or sites containing properties listed on the Florida Master Site File, the National Register of Historic Places, or designated by a local government as historically, architecturally, or archaeologically significant. The former U.S. Customs House, located at the southwest corner of Spangler Drive and Eisenhower Boulevard, is listed in the Florida State Master Site File (Site BD00210).

## Estuarine Pollution Sources

Potential sources of pollution in the PJA include stormwater outfalls maintained by PED, petroleum piers that may leak historical petroleum contamination into the harbor if breached, the petroleum storage tank areas and connecting pipelines, and the Florida Marine Patrol boat storage and repair facility. No marine vessel is totally leak-free. Residual pollution may occasionally be traced to ships that illegally discharge bilge water or spill petroleum products into the Port's berth and harbor areas. Several other land uses in or adjacent to the PJA, such as the U.S. Naval Surface Weapons Center, the Nova Southeastern University Oceanographic Center, the USCG Station, and the residential area along the north side of the Port's Entrance Channel, may contribute to the existing sources of pollution.

Most of the projects included in Port's M/VP consist of expanded or reconfigured cargo yards, renovated cruise terminals, new parking structures, development of currently undeveloped land and new or reconfigured roadways, all of which may involve increasing impervious areas within the Port.

These projects will impact surface water and will require new or revised surface water management permits. A National Pollutant Discharge Elimination System (NPDES) permit exists under permit FLR05B255 to implement the Stormwater Pollution Prevention Plan (SWPPP), with pollution prevention measures, treatment or removal techniques, monitoring, Best Management Practices, and other efforts required to control water quality and ensure standards are upheld.

In addition to activities occurring on the Port, water from areas to the north, west, and south pass through the harbor. As such, these waters may contain stormwater generated from associated roadways, parking lots, marinas, and residential areas located outside of the PJA. These sources of discharge have not been identified with regard to any impact on water quality within the PJA.

## Natural Disaster Planning Issues

This section addresses hurricane evacuation planning and post-disaster redevelopment planning as they pertain to the PJA. The Natural Disaster Component of the Coastal Management Element provides general natural disaster planning information.

### Hurricane Evacuation Planning

This subsection addresses the areas in the PJA requiring evacuation during a Category 3-5 storm event, the number of persons requiring evacuation, the transportation routes and constraints on evacuation routes, and the time needed to evacuate during a 100-year storm event or a Category 3 or higher storm event.

#### *Hurricane Vulnerability Zone*

The Hurricane Vulnerability Zone comprises the areas the regional or local hurricane evacuation plan delineates as requiring evacuation. It includes areas requiring evacuation in the event of a 100-year storm or a Category 3-5 storm event. The entire PJA is located in the Hurricane Vulnerability Zone.

#### *Number of Persons Requiring Evacuation, Hurricane Shelter, and Shelter Spaces Available*

There are no residential areas in the PJA. Thus, there are no persons requiring an evacuation shelter. Port personnel, such as employees of the Seaport Engineering & Construction, Facilities Maintenance, Public Safety, Administration, and other divisions of PED, must evacuate following the securing of the premises in accordance with the Port Everglades Hurricane Procedure & General Disaster Plan & Continuity of Operations Manual, revised April 20, 2011. Essential Port personnel are required to remain on standby at their homes during a storm event, while Public Safety personnel coordinate operations at the Broward County Emergency Operations Center in accordance with the Broward County Emergency Operations Plan and the above-referenced Port Everglades Hurricane Procedure & General Disaster Plan & Continuity of Operations Manual.

#### *Evacuation Routes*

Evacuation routes are those routes designated by county civil defense authorities or the regional evacuation plan for the movement of persons to safety in the event of a hurricane. Eller Drive, which

directly connects the Port with the Florida Intrastate Highway System (FIHS), serves as the primary evacuation route in the PJA. The eastern terminus of I-595 begins at Eller Drive, providing direct access to I-95, I-75, and Florida's Turnpike. The secondary evacuation route is Spangler Drive/SR 84, which connects with US-1 and I-95.

The primary transportation constraint on evacuation routes is the volume-to-capacity ratio on the internal and external roadway system; the widening of Eller Drive has helped reduce this constraint on the internal system. The primary hazard constraints on the primary and secondary evacuation routes are the rate and height of flooding caused by the storm tides associated with hurricane storm events.

#### *Evacuation Times*

Port personnel are to be evacuated prior to the attainment of flood stage. It is estimated that the securing of Port facilities will be completed at least 12 hours prior to projected landfall. In addition, the Harbormaster will strongly advise and recommend that all vessels in port leave well in advance of the approaching hurricane; however, the decision to remain in port or ride out the hurricane at sea rests with a vessel's master. Vessels remaining in port must comply with the USCG's requirements, as listed in their Hurricane and Natural Disaster Plan. Requests for berths approximately 24 hours prior to a hurricane's anticipated arrival are handled on a case-by-case basis.

#### *Post-Disaster Redevelopment*

Port Everglades provides essential transportation and cargo storage/distribution services to the South Florida region and serves as a primary facility for the collection, storage, and distribution of materials necessary for regional post-disaster redevelopment following a major storm event. It is expected that any damaged port facilities will be rapidly reconstructed to conditions that existed prior to the hurricane.

#### *Existing and Proposed Uses in Coastal High-Hazard Areas*

The Coastal High Hazard Area (CHHA) refers to the evacuation zone for a Category 1 or 2 hurricane. According to the "Flood Plains, Flood-Prone Areas and Coastal High-Hazard Area" Map in the Broward County Plan Use Plan Map Series, all existing and proposed uses in the PJA would be affected by a Category 1 or 2 storm event, requiring implementation of the Port Everglades Hurricane Procedure & General Disaster Plan & Continuity of Operations Manual upon the issuance of a hurricane watch by the National Hurricane Center and the Broward County Emergency Management Division.

#### *Structures with a History of Repeated Damage*

No structures in the PJA with a history of repeated damage have been identified.

#### *Inventory of Infrastructure in Coastal High-Hazard Areas*

All Port uses and infrastructure shown in **Figure 3** are located in the CHHA.

## Inventory of Beach and Dune Systems

Beach and dune systems provide habitat for various vegetation and animal species. The PJA includes maritime hammock, coastal strand, and beach dune systems, the latter of which are active nesting areas for sea turtles.

### Past Trends in Erosion and Accretion

Sand material has historically been accreting on the north side of the Port Everglades Entrance Channel jetties, with erosion occurring on the south side of the jetties. Sand also accumulates along the south side of the north jetty and a western section of the Entrance Channel.

### Shore Protection Structures

Shore protection structures in the PJA include the concrete and steel bulkheads that form ship berths and marginal wharfs, the riprap shoreline that protects the mangrove forest bordering the Southport Turning Notch, and the rock jetties that protect the Port Everglades Entrance Channel.

### Effects of Shore Protection Structures

The jetties lining the Port's Entrance Channel are composed of large boulders that help maintain channel project depth. Due to the prevailing southerly littoral current, sand material is deposited on the north side of the jetties, with scouring occurring on the south side of the jetties. The riprap that lines the Southport Turning Notch prevents erosion in the adjacent mangrove forest by breaking the wave action from tides, winds, and passing ships; prevents flotsam and jetsam from collecting in the mangrove area; and provides additional habitat for aquatic species.

### Identification of Existing and Potential Beach Nourishment Areas

The beach area in Dr. Von D. Mizell-Eula Johnson State Park, located south of the Entrance Channel jetties, experiences historic erosion due to the location of the jetties and the effect of the southerly littoral current. This area continues to be a location for potential beach renourishment. For example, in recent years, a rock spur was built from the Port's south jetty, and two rock T-head groins were built just south of the jetty to accommodate beach fill. These structures serve to stabilize the beach at that very dynamic location without adverse down drift impacts. About 50,000 cubic yards of sand were removed from a shoal that was beginning to obstruct the navigation channel, and the material was placed on the beach at the park. Port Everglades, which once owned the northern portion of Dr. Von D. Mizell-Eula Johnson State Park, donated this land to the State of Florida; therefore, PED does not maintain the beach areas in the PJA. PWESD supports beach nourishment together with FDEP and USACE. Historic dredging information indicates that maintenance dredging material from the Port Everglades Harbor and channels is not suitable for beach renourishment.

## Inventory of Public Access Facilities

Since September 11, 2001, public access to Port Everglades has been restricted based on state and federal statutes.

### Public Access Points

The beaches in the PJA, which are located in Dr. Von D. Mizell-Eula Johnson State Park, are accessible to the public. These beaches have guarded swimming areas, public restrooms and showers, picnic facilities, public dockage and boat ramps, and an Environmental Education Center built by the Port to promote environmental awareness. As the Port is no longer an unrestricted open port, those wishing to access the Port must enter by one of four security checkpoints – located on Eller Drive, Spangler Boulevard, Eisenhower Boulevard, and McIntosh Road – and show required identification. The locations of these checkpoints are shown in **Figure 8**.

### Private Property Open to the Public

In addition to the four Port-operated security checkpoints, individual security gates at private or leased terminals in Midport and Southport control access to these on-Port properties. The Broward County Convention Center is located outside the restricted zone, meaning the public can access this facility without showing identification. PED does provide opportunities for controlled public access to the Port, subject to advance registration, during Fleet Week when Navy ships are berthed at the Port, and for other special events.

### Parking Facilities

PED maintains several parking facilities, including the 2,000-space Midport parking garage, which serves the passenger terminals at Midport. Surface parking is also provided at Port-owned buildings for use by Port staff, tenants, and visitors to the Port for business purposes; these buildings include the Port Administration Building, the Public Safety Building, the Port Maintenance Division facility, the Amman Building, the Seabulk Building, the Foreign-Trade Zone, and various passenger terminals, such as Cruise Terminal 18, which has approximately 1,000 spaces. Parking is also provided for the longshoremen/stevedores serving the cruise and cargo vessels.

### Coastal Roads and Facilities Providing Scenic Overlooks

Several Port roadways, including Eller Drive, Eisenhower Boulevard, SE 19th Avenue, and SE 32nd Street, provide scenic views of the working harbor, but these are no longer available for unrestricted public access. Marinelli Gardens, located on the north side of Eller Drive just west of the FPL Discharge Canal, includes parking and picnic tables along the canal. North Ocean Drive, located in Dr. Von D. Mizell-Eula Johnson State Park, provides access to the oceanfront beaches, with overlooks of the Port, the ICW, and Whiskey Creek. A paved, lighted jetty at the north end of the park provides excellent fishing and an opportunity to view ships arriving at and departing from the Port. On the eastern shore of the ICW, four marina-type facilities are operated by governmental and educational agencies. A boat-launching ramp/dock is maintained in Dr. Von D. Mizell-Eula Johnson State Park for transient

park visitors. In addition, USCG, the U.S. Navy, and Nova Southeastern University operate facilities for the exclusive use of their vessels. The only boat ramp in the PJA is located in Dr. Von D. Mizell-Eula Johnson State Park. This ramp is part of the park's public dock facility. The only public dock in the PJA is also located in Dr. Von D. Mizell-Eula Johnson State Park.

### Marinas, Boat Ramps, and Public Docks

The Broward Sheriff's Office maintains a floating dock in the FPL Discharge Canal for moving their harbor patrol boats, and the Florida Marine Patrol operates a dry storage and repair facility adjacent to the canal. The Port also permits the temporary lay-in of large privately owned yachts at several berths.

### Fishing Areas and Piers

Port Everglades is designated as a manatee sanctuary by state statute. As such, fishing in the PJA is prohibited except in Dr. Von D. Mizell-Eula Johnson State Park and along the south jetty of the Port's Entrance Channel. There are no fishing piers in the PJA; the nearest fishing pier is located in the City of Dania Beach, adjacent to the southern portion of the park, which is outside of the PJA.

### Open Space

The only beachfront open space in the PJA is located in Dr. Von D. Mizell-Eula Johnson State Park, which is managed by FDEP.

## Inventory of Infrastructure

### Roadways

**Figure 8** identifies the roadways in the PJA and their connections to the regional highway network. The Port is located at the eastern terminus of I-595, which connects with I-95, Florida's Turnpike, and I-75 – all components of the state's Strategic Intermodal System (SIS) – as well as with other major arterials such as US-1, US-441 (SR 7), and SR 84. US-1 also connects the Port with FLL. From the regional highway network, Port Everglades has three points of access:

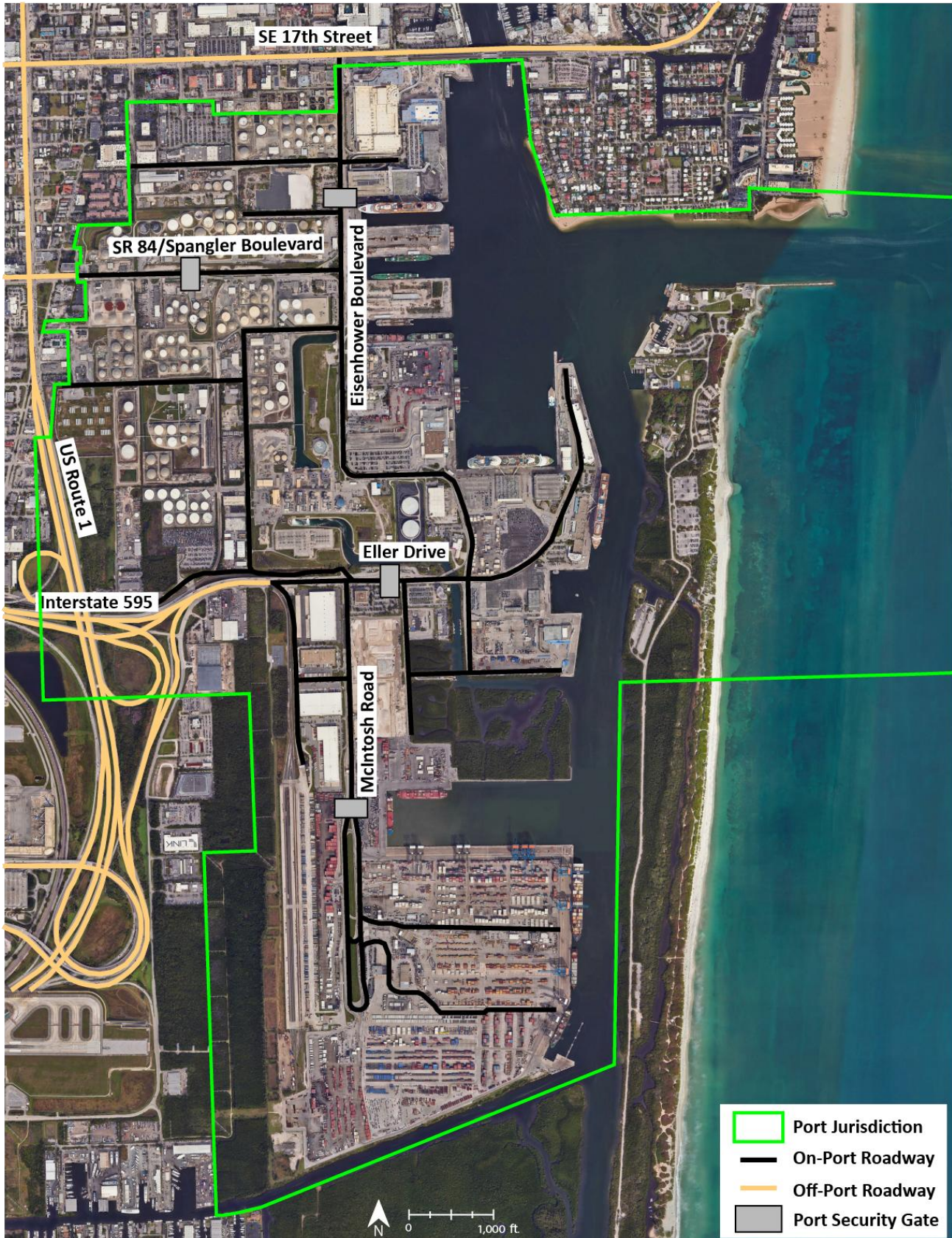
- *Eller Drive, which connects with I-595.* This southernmost east-west access to the Port is the road most traveled by trucks headed to and from the Southport container facility and by buses and passenger vehicles headed to and from the Port's Midport cruise terminals.
- *Spangler Boulevard, which is a continuation of SR 84, and enters the Port from the west, just to the north of Midport.*
- *Eisenhower Boulevard, which runs north-south and provides access to the Port from its northernmost edge, SE 17th Street/SR A1A.* As the main entrance to Northport, this road serves the Broward County Convention Center, the Northport parking garage, and two of the Port's cruise terminals. In addition to Eller Drive, Eisenhower Boulevard, and Spangler Boulevard, internal roads serving various terminals and other Port facilities include SE 14th Avenue, SE 19th

Avenue, McIntosh Road, SE 20th Street, SE 28th Street, SE 18th Avenue, SE 22nd Street, SE 25th Street, SE 26th Street, SE 30th Street, SE 32nd Street, SE 35th Street, and SE 36th Street. Ocean Drive, located in Dr. Von D. Mizell-Eula Johnson State Park provides access to beaches, shoreline parking, and marine facilities operated by USCG, the U.S. Navy, and Nova Southeastern University.

### Bridges or Causeways

The 17th Street Causeway Bridge, which borders the PJA on the north, is a drawbridge spanning the ICW. The original 1950s bridge, which had a 25-foot clearance, has been rebuilt. The new bridge opened in April 2002. This new structure includes wider traffic lanes, bicycle lanes, and a 55-foot vertical clearance to reduce the frequency of opening the span for passing boats. In the PJA, a PED-maintained fixed bridge along Eller Drive spans the FPL Discharge Canal in Midport. A second bridge has been built over the FPL Discharge Canal to connect the dockside of the Midport area with the backlands west of the canal in Southport; this bridge eliminates the need for container traffic traveling between the two locations to leave and then reenter through the security area. A fixed bridge maintained by the state is located in Dr. Von D. Mizell-Eula Johnson State Park along Ocean Drive, the main park roadway that spans Whiskey Creek.

Figure 8: Port Everglades Access Points and Principal Circulation



Source: Port Everglades; AECOM; Google Earth. Note: For planning purposes only.

### Sanitary Sewer Facilities

PED owns and operates the sanitary sewer transmission lines and lift stations in the PJA; these are maintained by the Facilities Maintenance Division, with the exception of the property located in Dr. Von D. Mizell-Eula Johnson State Park, which is served by an on-site treatment facility. In accordance with an adopted Large User Agreement between PED and the City of Fort Lauderdale, the City treats the sewage at the G.T. Lohmeyer Plant, which has an operating capacity of 55.7 million gallons per day maximum 3-month average daily flow. Approximately 20 percent of the PJA is currently not served by wastewater collection or advanced treatment systems. These areas primarily include the petroleum tank farms, the I-595 right-of-way, and open space and recreation areas. The non-serviced areas rely on temporary facilities or small septic tank systems for wastewater collection and treatment.

### Potable Water Facilities

PED owns and operates the potable water transmission lines in the PJA. These lines are maintained by the Facilities Maintenance Division, with the exception of the property located in Dr. Von D. Mizell-Eula Johnson State Park. In accordance with an adopted Large User Agreement between the Port and the City of Fort Lauderdale, the City supplies potable water to the Port. Water is delivered from either the Peele-Dixie Water Treatment Plant or the Fiveash Water Treatment Plant and enters the Port's distribution system through five master meters. The meters and maximum delivery capacity are located at SE 17th Street (19,000 gallons per day (gpd)), SE 20th Street (271,000 gpd), SE 24th Street (103,000 gpd), SE 28th Street (207,000 gpd), and Eller Drive (835,000 gpd).

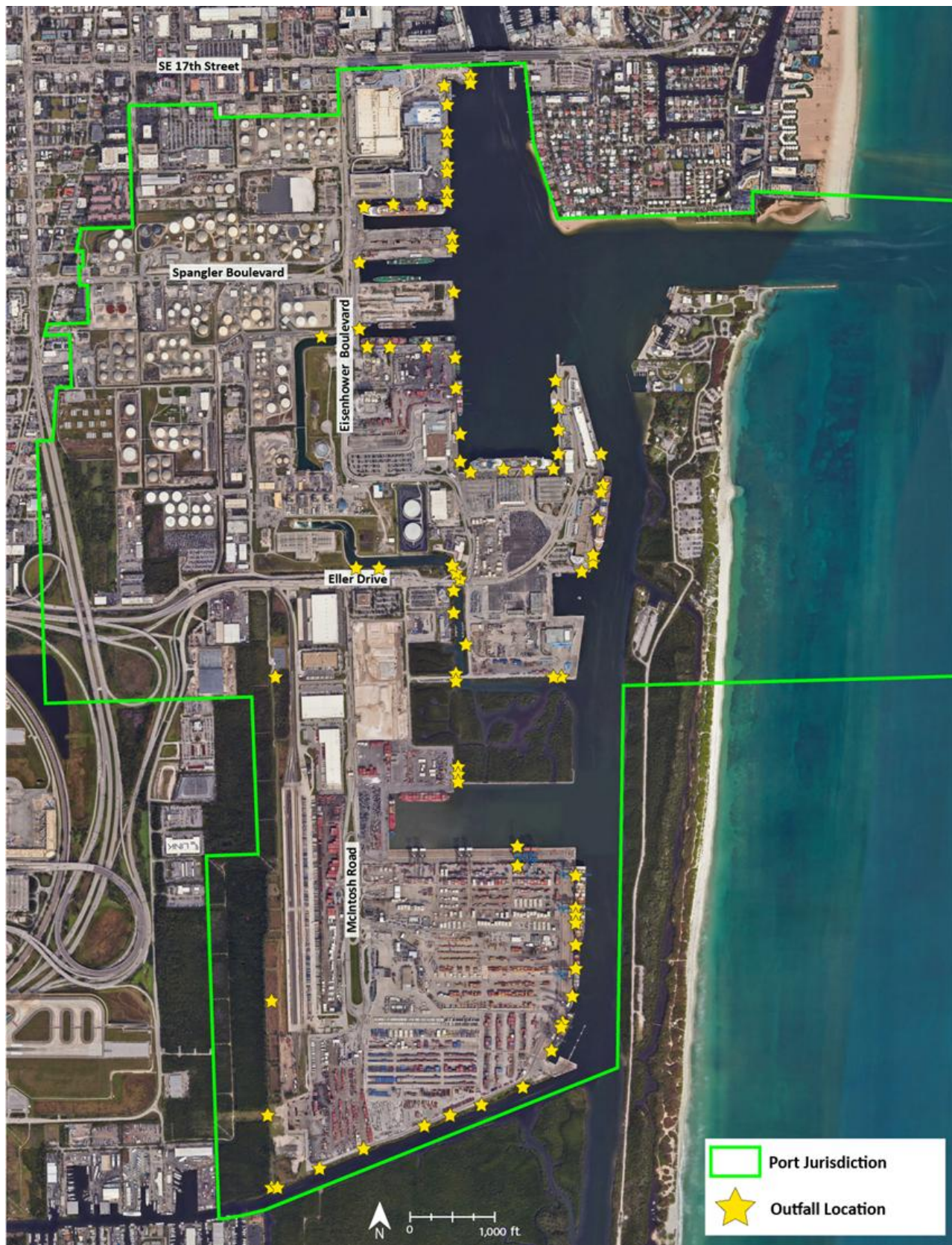
### Man-Made Drainage Facilities

Port Everglades owns and maintains the man-made drainage facilities in the PJA. This system is maintained in accordance with an NPDES permit in cooperation with FDEP as delegated by the United States Environmental Protection Agency (USEPA). There are two types of drainage systems in the PJA: one is piped and the other uses surface water discharge through ditches and swales. Drainage outfalls in the PJA are identified in **Figure 9** and the Port's drainage basins are shown in **Figure 10**.

### Solid Waste Facilities

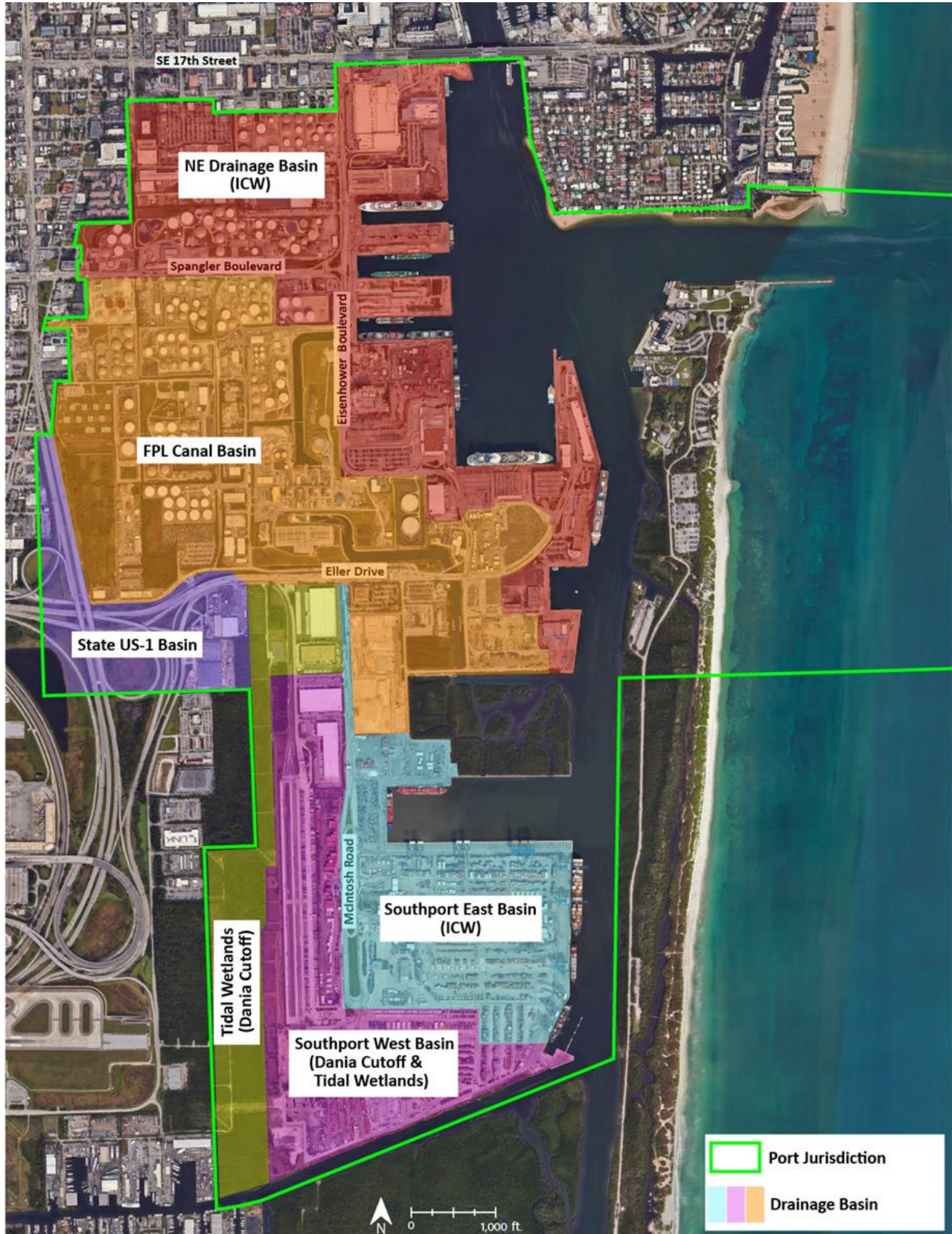
The Port Everglades Facilities Maintenance Division hauls away a major portion of the solid waste generated by the Port. Additionally, more than a dozen firms are authorized to haul waste for private owners and operators in the PJA. The solid waste collected in dumpsters is transferred to the Southwest Regional Landfill or the South County Resource Recovery Facility. The waste generated by the foreign-flag ships that call at the Port are disposed of by several privately contracted haulers. The respective cruise lines contract with several franchised companies for the pick-up and disposal of the waste from their ships, which is hauled away to various locations outside of Broward County.

Figure 9: Port Everglades Outfall Discharge Locations



Source: Port Everglades; Cordova Rodriguez & Associates. Note: For planning purposes only.

Figure 10: Port Everglades Drainage Basins

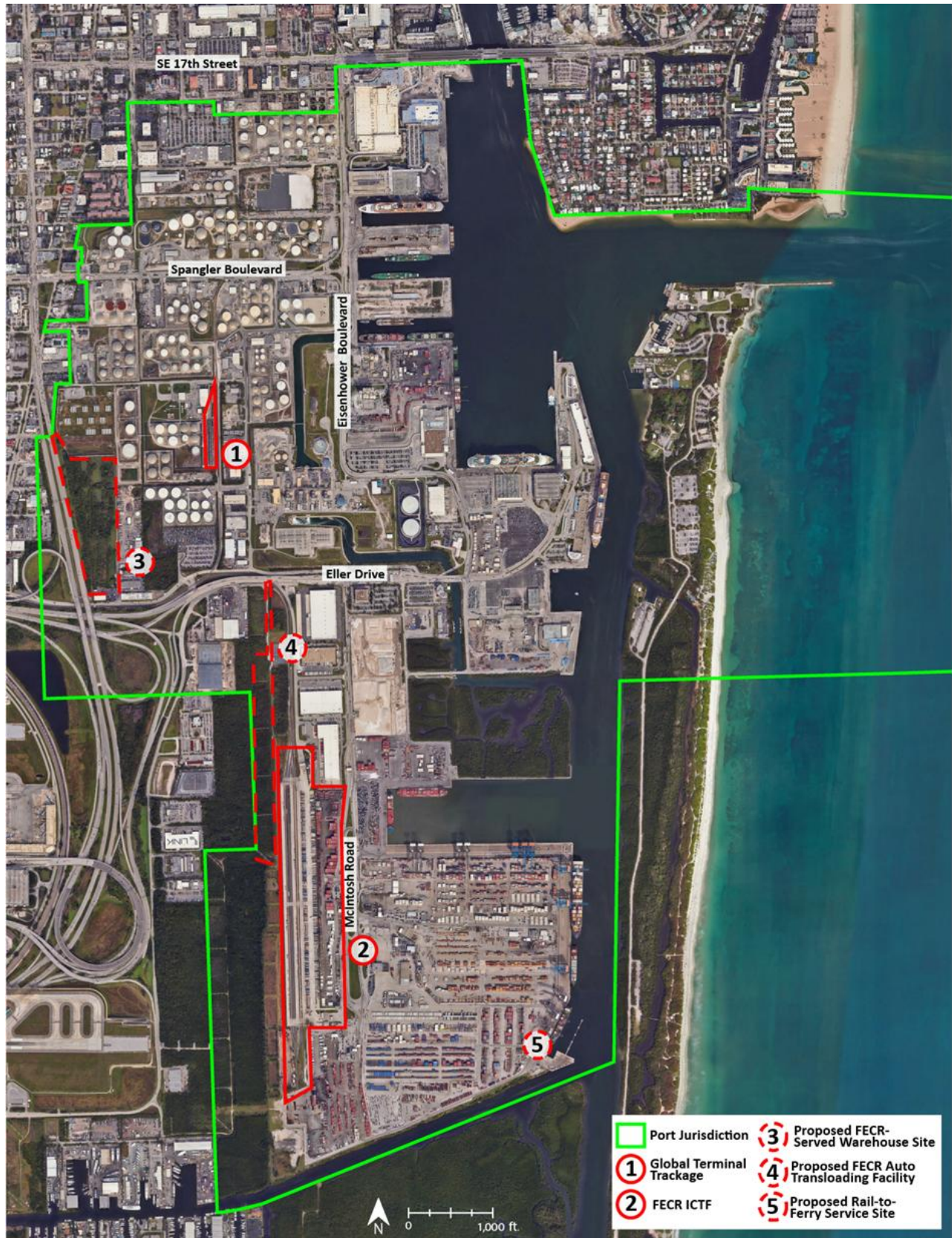


Source: Port Everglades; Cordova Rodriguez & Associates. Note: For planning purposes only.

### Railroad Facilities

Port Everglades is served by an internal railroad network that is owned by PED and maintained by FECR per an existing agreement. As **Figure 11** shows, the main rail line accesses the Port along Eller Drive then turns north to the west of SE 14th Avenue. The main rail line also branches to the south and passes underneath the I-595 overpass to access the on-Port, near-dock ICTF, which was constructed in 2014. The ICTF, which increases the efficiency of inland cargo logistics for both imports and exports and substantially reduces Port-related truck traffic, is also shown in **Figure 11**. FECR maintains a separate off-Port rail cargo yard west of Andrews Avenue and south of SR 84, outside the PJA. This off-Port yard has trailer-on-flat-car and container-on-flat-car capability, but the vast majority of containers and trailers originating at or destined for Port Everglades are handled at the on-Port ICTF.

Figure 11: Port Everglades Existing and Proposed Rail Infrastructure



Source: Port Everglades; HDR. Note: For planning purposes only.

## Inventory of Deepwater Port Factors

### Economic Base

Port Everglades plays a vital role in the South Florida region and as of 2024 generated an estimated \$28.1 billion in total business activity each year. This activity supports more than 204,385 jobs statewide and contributes \$1.12 billion annually in state and local taxes. **Table 1** illustrates the Port's waterborne commerce activity for fiscal year (FY) 2024 (October-September). The Port is the fifth-busiest cruise homeport in the world, with approximately 4.0 million revenue passengers handled in FY 2024. The Port ranks 13th among mainland U.S. container ports, moving 1.08 million TEUs (twenty-foot equivalent units) in FY 2024. The Port also supplies a 12-county region with gasoline, fuel oil, and aviation fuel. Other commodities handled by the Port include new and used automobiles, cement, steel coils and rebar, aggregates, and gypsum. Trucks, trailers, tractors, buses, and yachts and other boats are also shipped through the Port.

### Landside Transportation Needed to Support Port Everglades

**Figure 8**, shown previously, identifies the major transportation corridors that serve Port Everglades and the Port's four ingress and egress points for motorized traffic. These points include Eller Drive at I-595, Spangler Boulevard/SR 84 at US-1, and Eisenhower Boulevard at SE 17th Street/SR A1A, which directly connect the Port to the FIHS and SIS. The eastern terminus of I-595 within the PJA provides ingress and egress at Eller Drive. I-595 intersects with I-95, Florida's Turnpike, and I-75 to the west of the PJA. Spangler Boulevard, which becomes SR 84 at U.S. 1, intersecting with I-95 to the west of the PJA, provides a secondary access to the FIHS/SIS.

### In-Water Facilities

The in-water facilities at Port Everglades, including the Port's three slips and 39 primary berths, several of which have RORO ramps, are shown in **Figure 6**. The Port has more than 29,620 linear feet of bulkhead.

### Maintenance of In-Water Facilities

PED is responsible for maintaining project depths within 100 feet of the bulkheads, within all slips, within the last 1,000 feet of the ICW between the "knuckle" or curve at Midport to the Dania Cut-Off Canal, and within the southern extension of the main turning basin. USACE is responsible for maintaining the project depths in the remainder of the PJA. The Port conducts depth soundings to monitor any depth changes, which may be caused by siltation or propeller backwash. Port Everglades Harbor has not experienced a need for frequent maintenance dredging activities; however, the Port does require periodic depth maintenance in Slips 1, 2, and 3.

Table 1: Waterborne Commerce Report

FISCAL YEAR	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
<b>Operating Revenue</b> <sup>1</sup>	\$ 215,463,387	\$ 182,395,113	\$ 152,059,179	\$ 103,504,562	\$ 145,612,954	\$ 170,744,938	\$ 167,996,115	\$ 161,733,028	\$ 162,596,496	\$ 153,450,795
Expenses	\$ 124,483,943	\$ 116,164,753	\$ 97,860,009	\$ 67,154,245	\$ 81,726,469	\$ 105,755,126	\$ 103,969,738	\$ 88,572,056	\$ 83,266,230	\$ 79,844,421
<b>Gross Margin</b>	\$ 90,979,444	\$ 66,230,360	\$ 54,199,170	\$ 36,350,317	\$ 63,886,485	\$ 64,991,812	\$ 64,026,377	\$ 73,160,972	\$ 79,327,266	\$ 73,606,374
<b>TOTAL WATERBORNE OPERATING REVENUE</b>	\$ 177,263,540	\$ 151,716,701	\$ 127,438,987	\$ 84,363,663	\$ 119,523,257	\$ 142,020,899	\$ 140,916,169	\$ 134,172,097	\$ 135,185,504	\$ 127,584,116
Chaise Revenue	\$ 76,688,579	\$ 53,125,880	\$ 29,456,092	\$ 1,630,383	\$ 41,316,814	\$ 59,411,960	\$ 59,596,111	\$ 55,874,688	\$ 55,322,611	\$ 52,314,661
Containerized Cargo Revenue	\$ 40,694,716	\$ 38,412,621	\$ 38,201,614	\$ 33,544,940	\$ 31,686,402	\$ 34,525,134	\$ 35,182,449	\$ 34,155,505	\$ 36,703,322	\$ 34,846,800
Petroleum Revenue	\$ 45,120,136	\$ 44,289,544	\$ 41,704,205	\$ 35,741,967	\$ 33,017,514	\$ 37,401,760	\$ 36,079,665	\$ 34,733,092	\$ 34,868,376	\$ 32,749,162
Bulk Revenue	\$ 6,645,896	\$ 8,169,378	\$ 7,930,515	\$ 6,775,472	\$ 4,042,033	\$ 4,977,258	\$ 3,617,433	\$ 2,950,864	\$ 3,418,513	\$ 2,827,139
Break Bulk Revenue	\$ 4,453,401	\$ 4,659,837	\$ 4,900,305	\$ 4,321,053	\$ 3,981,007	\$ 4,001,558	\$ 4,672,385	\$ 5,144,529	\$ 3,804,004	\$ 3,671,874
Lay-in Revenue	\$ 3,660,812	\$ 3,059,441	\$ 5,246,256	\$ 3,349,848	\$ 5,479,487	\$ 1,703,219	\$ 1,768,126	\$ 1,313,419	\$ 1,068,678	\$ 1,174,480
<b>TOTAL SHIP CALLS</b>	<b>4,655</b>	<b>4,048</b>	<b>3,900</b>	<b>3,150</b>	<b>3,701</b>	<b>4,016</b>	<b>4,214</b>	<b>4,029</b>	<b>3,959</b>	<b>3,768</b>
Cruise Ships	889	756	702	205	638	902	858	846	876	889
Container Ships	2,465	2,028	1,675	1,675	1,989	2,058	2,120	1,987	1,887	1,680
Cargo Ships	340	297	255	301	240	270	270	243	222	218
Petroleum Tankers/Barges	590	606	588	489	491	572	572	594	593	581
Other (Navy/Bunkers/Tugs/Lay-In)	371	361	523	480	343	260	394	359	381	400
<b>TOTAL CRUISE PASSENGERS</b>	<b>4,127,715</b>	<b>3,007,358</b>	<b>1,711,908</b>	<b>118,946</b>	<b>2,539,542</b>	<b>3,892,215</b>	<b>3,870,342</b>	<b>3,863,682</b>	<b>3,826,415</b>	<b>3,773,386</b>
Single Day	116,796	114,825	96,692	49,054	57,095	119,153	128,934	125,410	145,866	151,157
Multi-Day	4,010,919	2,892,533	1,621,216	67,892	2,482,447	3,773,062	3,741,408	3,738,252	3,680,549	3,622,229
<b>TOTAL CONTAINERIZED CARGO (tons)<sup>2, 3</sup></b>	<b>6,748,200</b>	<b>6,368,522</b>	<b>7,334,350</b>	<b>6,505,190</b>	<b>5,707,528</b>	<b>6,797,694</b>	<b>7,365,755</b>	<b>7,226,433</b>	<b>6,693,690</b>	<b>6,693,446</b>
TEUs Loaded	773,511	727,211	804,208	734,804	651,017	766,664	830,082	792,995	739,326	749,876
TEUs Total	1,087,112	1,013,159	1,107,546	1,038,179	945,512	1,053,078	1,108,465	1,076,912	1,037,226	1,080,507
<b>TOTAL PETROLEUM (tons)<sup>2, 3, 5</sup></b>	<b>17,554,225</b>	<b>17,743,747</b>	<b>17,108,365</b>	<b>15,138,950</b>	<b>14,356,296</b>	<b>16,937,058</b>	<b>16,704,803</b>	<b>16,492,838</b>	<b>16,223,101</b>	<b>15,743,265</b>
Barrels	124,293,447	125,547,532	121,048,619	107,169,404	101,188,400	119,945,866	118,124,294	116,750,337	114,750,795	111,308,509
<b>TOTAL BULK (tons)<sup>2</sup></b>	<b>1,673,285</b>	<b>1,777,606</b>	<b>1,868,558</b>	<b>1,664,241</b>	<b>1,193,256</b>	<b>1,544,332</b>	<b>1,337,159</b>	<b>1,220,147</b>	<b>1,428,763</b>	<b>1,234,505</b>
Bulk Cement	1,089,360	1,256,539	1,277,341	982,190	764,455	882,916	655,164	665,307	715,752	702,600
Dry Bulk	583,925	521,067	591,218	682,051	428,801	661,416	681,994	546,325	698,712	517,137
Liquid Bulk (Non-petroleum)	-	-	-	-	-	-	-	-	-	-
<b>TOTAL BREAK BULK (tons)<sup>2, 3, 4</sup></b>	<b>213,934</b>	<b>243,189</b>	<b>287,058</b>	<b>218,649</b>	<b>220,019</b>	<b>295,692</b>	<b>327,139</b>	<b>362,553</b>	<b>336,777</b>	<b>330,647</b>
Steel/Coils/Rebar	114,399	139,319	158,378	132,919	136,529	151,450	177,394	262,464	246,875	236,722
Other Break Bulk	99,535	103,870	128,680	85,730	83,490	144,242	149,755	99,889	89,902	93,925
<b>TOTAL VEHICLES &amp; YACHTS (tons)<sup>3, 4</sup></b>	<b>86,165</b>	<b>82,997</b>	<b>73,252</b>	<b>56,894</b>	<b>71,142</b>	<b>95,048</b>	<b>140,806</b>	<b>107,841</b>	<b>99,856</b>	<b>108,826</b>
Trucks/Trailers	4,453	2,947	2,765	3,367	6,317	19,182	18,405	19,490	19,932	26,131
Tractors	926	1,038	1,026	2,221	3,043	3,162	5,503	7,717	15,648	27,232
Yachts/Boats	70,184	71,200	65,929	45,674	54,282	62,950	69,774	63,276	62,972	49,514
Autos	10,537	7,783	3,533	5,597	7,500	9,755	46,966	17,198	7,238	5,872
Buses	64	23	-	35	-	-	158	160	66	77
<b>TOTAL PURE CAR CARRIER (units)</b>	<b>44,109</b>	<b>47,973</b>	<b>65,489</b>	<b>72,381</b>	<b>63,689</b>	<b>50,883</b>	<b>28,975</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL WATERBORNE COMMERCE (tons)<sup>2</sup></b>	<b>26,189,645</b>	<b>26,133,064</b>	<b>26,598,332</b>	<b>23,531,030</b>	<b>21,477,099</b>	<b>25,574,776</b>	<b>25,734,855</b>	<b>25,301,771</b>	<b>24,681,331</b>	<b>24,001,663</b>

<sup>1</sup> Operating Revenue is adjusted to exclude Property Damage Recoveries, considered Non-Operating Revenue.  
<sup>2</sup> Tonnage is measured in 2,000-pound short tons.  
<sup>3</sup> Vehicles & Yachts tonnage is presented in detail in its own section for informational purposes, but this tonnage is accounted for in other areas above.  
<sup>4</sup> Break Bulk tons FY 2018 include 25,237 Pure Car Carrier units, or 37,908 tons of vehicles & yachts and 3,738 Pure Car Carrier units or 6,866 tons of other break bulk cargo.  
<sup>5</sup> Petroleum does not include truck and rail volumes. FY 2024 total petroleum volume including Truck & Rail is, 18,249,649 tons, 129,329,098 barrels.

Source: Port Everglades.

### Management of Dredge Material

Limited upland areas are available to the Port for the disposal of dredged materials. With the exhaustion of possible alternative locations to place fill on land, other than a six-acre site in the southwest corner of the Port, USEPA and USACE have suggested ocean dredged material disposal sites (ODMDS) (see **Figure 12**).

The existing ODMDS was designated to accommodate dredged material from periodic maintenance events in the Port. However, preliminary results of the modeling conducted in 2009 by USACE regarding the capacity of the existing ODMDS indicated that it is insufficient in size to contain the potential volume of dredge material (not to exceed 6.63 million cubic yards) resulting from the planned Port Everglades Channel Deepening and Widening project. USACE and USEPA worked cooperatively on the development of an Environmental Assessment supporting the ODMDS expansion. **Figure 12** shows the location of the expanded ODMDS approximately 3.25 nautical miles offshore of Fort Lauderdale and the entrance to Port Everglades. The expanded ODMDS can also serve as the disposal area for other federal projects, the Port Everglades Sand Bypass project, and operations and maintenance material from dredging events. In 2014, USEPA conducted a post-disposal monitoring survey. Based on the data collected in this survey, USEPA plans to modify the Site Management and Monitoring Plan to change the release zone for ocean disposal of dredge material within the disposal site, moved approximately 50 meters to the north to ensure that most of the dredge material is contained within the southern boundary of the disposal site. This survey also showed that no chemical concentrations exceeded USEPA's marine water quality criteria, and that the benthic community within and around the site is healthy, despite elevated chemical concentrations in the sediment and the presence of a layer of dredge material.

### Selection of Dredge Disposal Sites

The selection of upland dredge disposal sites in the PJA is to be restricted to Port-owned property. Minimal social, cultural, or other ancillary non-Port-related activities are expected to be impacted by the location and development of an upland dredge disposal site, since Port-owned property is considered industrial in nature and is located within the influence of saltwater groundwater. Upland dredge disposal is, however, expected to be minimal.

### Hazardous Material Handling and Cleanup

Procedures for the handling and disposal of regulated or hazardous materials found on Port property are included in the Port Tariff. The Port generates small amounts of regulated waste from operations such as container crane maintenance, vehicle maintenance, painting, and other minor activities. The Port provides for the disposal of these materials through a contract with a licensed disposal company to handle these substances.

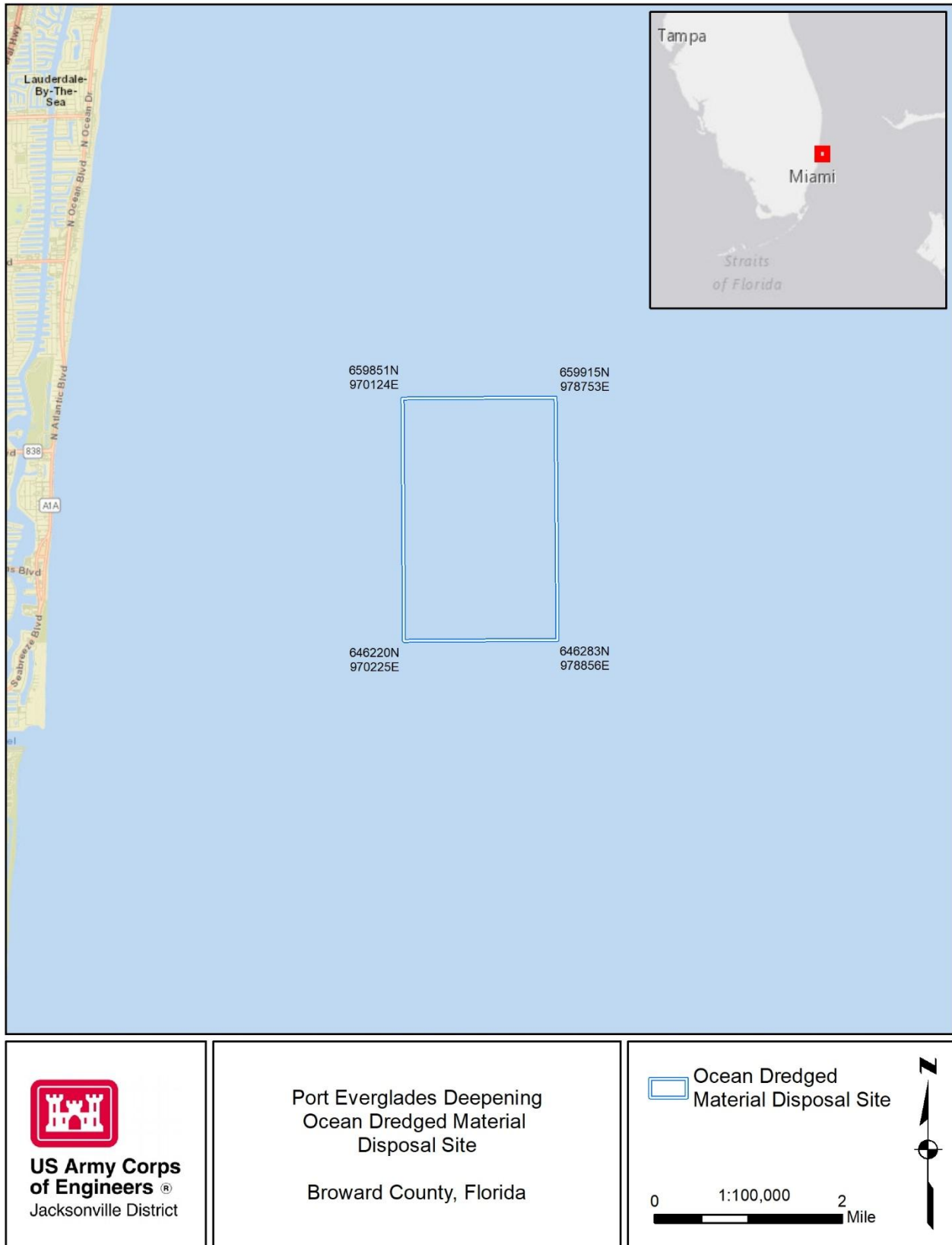
### Handling and Cleanup of Petroleum Products

Port Everglades serves as the primary port-of-entry for petroleum products in South Florida. These petroleum products are off-loaded from vessels to privately owned oil tank storage facilities through at-dock manifolds and underground pipelines. Petroleum transfers are carried out by the Port's private-sector users in accordance with applicable state and federal regulations. An established notification protocol involving federal and state agencies as well as the Port in the event of a spill.

Over the years, petroleum product has accidentally been discharged from petroleum facilities, including underground pipelines and storage tanks, forming plumes of free-phase and dissolved petroleum product in the ground and ground water. To facilitate environmental investigation, assessment, and remediation of historical petroleum contamination on Port lands, several of the petroleum terminal operators with facilities located in the PJA have formed a non-profit corporation called the Port Everglades Environmental Corporation (PEECO).

Additionally, as noted in the Water Quality section under permit FLR05B255, Port Everglades is charged with implementing a comprehensive Stormwater Management Program that includes the implementation of an SWPPP with pollution prevention measures, discharge containment, and treatment or removal techniques for petroleum remediation from fuel farms.

Figure 12: USACE Ocean Dredged Material Disposal Site



Source: USACE.

## Maintenance and Expansion Program

The Port Everglades M/VP identifies projects in Northport, Midport, and Southport to meet the anticipated demand in its core business lines: cruise, containerized cargo, liquid bulk (petroleum), dry bulk (crushed rock/aggregates), break-bulk, and automobiles (RORO). This section presents forecasts for each of these business lines over the 5-, 10-, and 20-year planning horizons, followed by a summary of the projects proposed to meet the forecasted demand. This information provides the context for the subsequent analysis of Port conditions and impacts.

### Economic Assumptions

The economic assumptions used to identify projected needs at the Port over the 5-, 10-, and 20-year planning horizons were prepared by specialized industry professionals who were part of the consulting team tasked with updating the Port's M/VP.

### Foreseeable Changes in Shipping Technologies

#### *Changes in Shipping Technologies*

- Cruise Shipping

As of the first quarter of 2024, there were 63 new cruise vessels scheduled for delivery globally between 2024 and 2036. The average passenger capacity of these vessels is 2,900, a 37 percent increase in average size compared to the ships on order as of the first quarter of 2020. Additionally, 18 of these newbuilds (29 percent) have a capacity of over 4,000 passengers and the largest of these ships exceed 5,700 passengers. The majority of these ultra-large vessels are being built by cruise lines that currently call Port Everglades, namely Carnival Cruise Line, Princess Cruises, and Royal Caribbean International. This trend toward larger average cruise vessels, particularly in Port Everglades' core service region – the Caribbean – is the predominant trend impacting the Port's long-term cruise business and operations. The attractiveness of Port Everglades as a cruise homeport is confirmed by feedback from cruise line stakeholders and an assessment of the Port's overall cruise tourism infrastructure.

The assessment of the Port's future passenger and vessel throughput, berth demand, and utilization for future cruise operations resulted in the following key conclusions:

1. The Port's cruise terminals must be designed to allow for flexibility in terms of cruise line operations, passenger loads, and other variables while emphasizing efficiency and guest/user convenience.
2. Increasingly, new cruise terminals should be highly functional facilities that are designed to allow performance targets to be achieved through a coordinated level of operations by limiting passenger queueing times and minimizing the overall amount of time required to complete the key embarkation and disembarkation processes.

3. Efficiency of operations and passenger throughput rates become even more important as average vessel sizes increase and as average and peak passenger volumes at the Port continue to grow.
4. Landside infrastructure, especially ground transportation areas, will need to be as efficient as terminals themselves to ensure smooth overall operations; technology and design will be the main drivers of efficiency.
5. The Port should continue to manage existing berths and work with cruise line partners to increase weekday use, taking the burden off weekend infrastructure requirements.
6. Much of the Port's growth opportunities will depend on addressing both the quantity and quality of cruise infrastructure requirements for future vessels entering the Caribbean region.
7. Alternative, secondary uses (e.g., events) of cruise terminals are a common way for many ports to generate incremental revenue to offset the high costs of cruise infrastructure development.

- **Cargo Shipping**

Similar to cruise terminals, container terminal designs and operations have been influenced by a number of trends in recent years. Key trends shaping container terminals today are summarized below.

#### **Increased Automation and Digitalization**

- **Automation:** U.S. ports have been increasingly evaluating automation technologies to improve efficiency, improve safety, and handle larger volumes of containers. This includes the use of automated yard cranes, self-driving trucks, and automated guided vehicles to move containers within port terminals. Ports like the Port of Los Angeles and Port of Long Beach have been at the forefront of integrating automated systems.
- **Digitalization:** The adoption of digital platforms, data analytics, and artificial intelligence has become more prevalent to optimize port operations. Real-time tracking of containers, predictive maintenance for equipment, and the use of AI for logistics planning are helping ports improve turnaround times and reduce congestion. Blockchain technology is also being explored to streamline documentation and improve the transparency of supply chains.

#### **Expansion and Modernization to Accommodate Larger Vessels (Post-Panamax)**

- **Infrastructure Upgrades:** The expansion of the Panama Canal in 2016 allowed for the passage of larger "Post-Panamax" ships, which has led U.S. ports to invest in deeper

channels, larger cranes, and expanded berths to accommodate these mega-ships. Ports such as the Port of Savannah, the Port of New York and New Jersey, and the Port of Houston have been undergoing significant upgrades to handle increased container volumes.

- **Intermodal Connectivity:** Ports are also focusing on improving their connectivity to rail and trucking networks to enhance the flow of containers to inland destinations. This includes investments in intermodal terminals and expanded logistics facilities to handle increased container throughput and reduce bottlenecks.

These trends are driven by the need to increase efficiency, reduce costs, and remain competitive in the face of growing global trade volumes and shifting supply chain dynamics.

In addition to automation/digitalization and infrastructure expansion, a number of other key trends have shaped U.S. port container operations since 2018, as summarized below.

### Sustainability and Decarbonization Initiatives

- **Green Port Strategies:** U.S. ports are increasingly focusing on reducing their carbon footprint. This includes investments in electrification of port equipment, transitioning to electric vehicles (EV), and implementing shore power systems to allow vessels to plug into the grid while docked, reducing emissions from idling engines.
- **Environmental Regulations:** Ports are under pressure to meet stricter environmental regulations aimed at reducing air and water pollution. For example, the California Air Resources Board has set aggressive targets for reducing emissions at ports, which has prompted investments in cleaner technologies.
- **Sustainable Fuels:** Ports and shipping companies are exploring the use of alternative fuels like LNG, hydrogen, and biofuels to meet decarbonization goals.

### Supply Chain Resilience and Diversification

- **Response to Supply Chain Disruptions:** The COVID-19 pandemic and subsequent global supply chain disruptions have highlighted the need for greater resilience. Ports have been working on diversifying their supply chains, optimizing inventory management, and adopting more flexible logistics strategies.
- **Nearshoring and Regionalization:** There is a shift towards nearshoring (moving production closer to the U.S.) to reduce dependency on distant suppliers and minimize the impact of disruptions. This trend is increasing container traffic from Mexico and Central America, which affects port operations along the Gulf Coast and Southern border.

- **Agility in Operations:** Ports are investing in technology to improve real-time data sharing among stakeholders, enabling more agile responses to sudden changes in demand or disruptions in the supply chain.

#### E-commerce and Last-Mile Logistics

- **E-commerce Boom:** The surge in e-commerce has significantly increased the demand for port capacity, especially for handling smaller, high-frequency shipments. Ports are adjusting their operations to accommodate a shift toward containerized consumer goods with faster turnaround times.
- **Distribution Centers:** Ports are partnering with logistics companies to expand warehousing and distribution centers closer to port terminals, enabling faster last-mile delivery.

#### Labor Relations and Workforce Modernization

- **Labor Shortages:** The push towards automation has raised tensions between port operators and labor unions, especially in major ports like Los Angeles and Long Beach. At the same time, ports are experiencing workforce shortages, prompting efforts to attract and train new talent.
- **Skill Development:** Ports are investing in training programs to upskill workers for more technologically advanced roles, such as operating automated equipment and utilizing digital tools.

#### Data Analytics and Artificial Intelligence (AI) for Predictive Management

- **Predictive Analytics:** Ports are increasingly using AI and machine learning for predictive maintenance, congestion management, and optimizing container movements. Predictive analytics can reduce downtime by forecasting equipment failures and improve the efficiency of cargo handling.
- **Digital Twins:** The use of digital twin technology (virtual replicas of physical assets) allows ports to optimize operations, simulate scenarios, and enhance decision-making in real-time.

#### Cybersecurity and Risk Management

- **Cybersecurity Investments:** As ports become more digital, the risk of cyberattacks has grown. U.S. ports are investing in cybersecurity measures to protect critical infrastructure and ensure the smooth flow of goods. The Port of Los Angeles, for instance, has partnered with IBM to develop a cyber resilience center.
- **Resilience Planning:** Ports are also focusing on risk management to safeguard against disruptions caused by natural disasters, geopolitical tensions, or pandemics.

## Growth in Inland and Regional Ports

- **Inland Ports Development:** To alleviate congestion at major coastal ports, there's been a push to develop inland ports and improve rail connections. For example, the Georgia Ports Authority has expanded its inland port network to ease pressure on Savannah.
- **Diversification of Trade Routes:** Ports in the Gulf Coast (Houston, New Orleans) and East Coast (Savannah, Charleston) are gaining more traffic as shippers look for alternatives to congested West Coast ports, especially during the recent supply chain crises.

## Emergence of Smart Ports

- **Smart Technologies:** Ports are embracing Internet of Things sensors, 5G networks, and cloud-based platforms to improve real-time data collection, enhance cargo visibility, and optimize operations.
- **Port Community Systems:** Ports are implementing integrated systems that connect all stakeholders—shipping lines, trucking companies, customs, and terminal operators—to streamline communication and reduce delays.

These trends reflect the evolving landscape of port operations as U.S. ports adapt to technological advancements, environmental concerns, and changes in global trade dynamics.

### *Changes in Port Operations*

The federal and state security mandates following the events of 9/11 required the Port to implement significant new measures to protect Port facilities, tenants, users, and the local community from potential threats. The Port has also implemented several environmental and resilience initiatives in response to growing concern about global climate change.

- **FLL Height Restrictions**

Port Everglades is uniquely located only about 1.5 miles from FLL. Both the Broward County Aviation Department (BCAD) and PED have developed master plans that recommend expansions of their respective facilities and operations to meet the projected needs for the airport and seaport services that are vital to the regional economy. Flight arrival and departure patterns from FLL, including the north runway and the 9,000-foot south runway which terminates just west of NE 7th Avenue, present constraints on Port cargo activity due to air draft restrictions imposed by the Federal Aviation Administration (FAA). Specifically, the air draft constraints restrict the height of structures, STS cranes, and vessels located under the flight paths. In developing the Port Everglades M/VP, PED ensured that the proposed STS cranes in Southport would be compliant with these air draft constraints.

- **Airport-Seaport Connectivity**

A second area of collaboration between PED and BCAD involves the close link between the seaport and the airport regarding the transport of cruise passengers. A significant portion of the Port's multi-day cruise passengers arrive via FLL. The majority of these passengers arrive and depart on Saturdays and Sundays, creating the potential for significant congestion, especially as the Port serves more megaships with over 5,000 passengers each, many of whom are from abroad. Passengers currently transfer from the airport to the seaport terminals by buses under contract with the individual cruise lines. Passengers also arrive at the cruise terminals from FLL via rideshares, taxis, or other vehicular means. To help mitigate continued increases in auto traffic into the Port as cruise passenger volumes increase, Broward County's Premium Mobility Plan calls for the creation of a 3.5-mile light rail transit system called the Airport-Seaport-Convention Center Connector. This new transit system would use an elevated guideway to connect between FLL, the Midport cruise terminals, and the Broward County Convention Center, providing an efficient transit connection between all three destinations.

While details associated with the final path and ultimate design of the Airport-Seaport-Convention Center Connector remain to be determined, the Port's M/VP recognizes the potential for this project. The Port will continue to look for ways to integrate this project into its larger mobility system as further details emerge on the project.

*Estimates of Future Types and Volumes of Commodities to be Handled*

The Port's markets for containerized cargo, non-containerized cargo (dry bulk/break-bulk/autos), and liquid bulk (petroleum) are fully discussed in Element 2 of the Port Everglades M/VP. Specific forecasts for the planning milestones, as prepared by the specialized industry professionals who were part of the consulting team, are summarized below.

- **Containerized Cargo**

The future market potential for containerized cargo will be driven by several key factors. Import trade will be driven by:

- Organic growth in local consumption, driven by population, and
- The development of new services.

Export trade, which has been dominated by exports to Central America, South America, and the Caribbean, will depend primarily upon the projected growth in the trade partner countries' economies within those markets. Any addition of new import services at Port Everglades will also play a role by increasing export capacity and foreign port coverage.

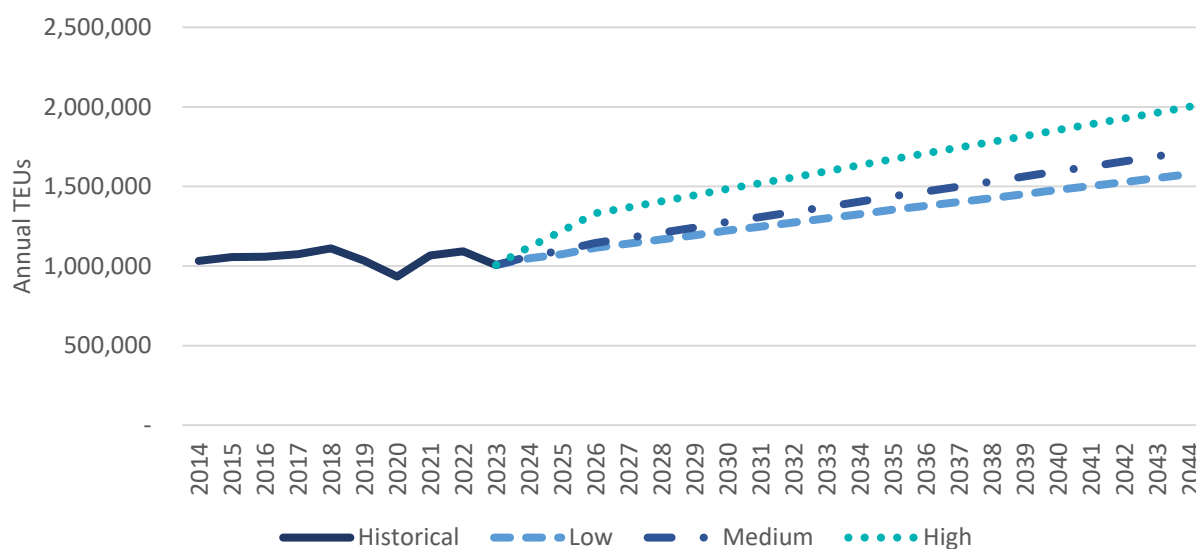
It is to be emphasized that the cargo projections are unconstrained projections, in that they are demand driven. These unconstrained projections represent the markets in which Port Everglades can participate, and the degree of success in the capture of the markets will depend

upon market efforts as well as current and future terminal operations and future facility investments outlined in the 5-year Master Plan and 10- and 20-year Vision Plans.

Baseline containerized cargo projections were developed using population projections for the state of Florida. Beyond the baseline projections, two potential markets for new services were identified. A potential Mexican service, which is estimated at 83,000 TEUs currently, and a new Northern European/Mediterranean service, estimated at 94,000 TEUs. It is assumed that these services will develop over the next three years. It is also assumed that the potential market grows at the same annual rate as the baseline import and export TEUs throughput at the Port.

Based upon the factors outlined in this section, the containerized cargo market outlook for Port Everglades through 2044 is summarized in **Figure 13**. In this summary, the low forecast is based upon medium Florida population growth, the medium forecast is based upon high Florida population growth, and the high forecast is based upon the addition of the potential Mexican, Northern European, and Asian services.

Figure 13: Containerized Cargo Market Outlook Summary (2014–2044)



Source: Martin Associates

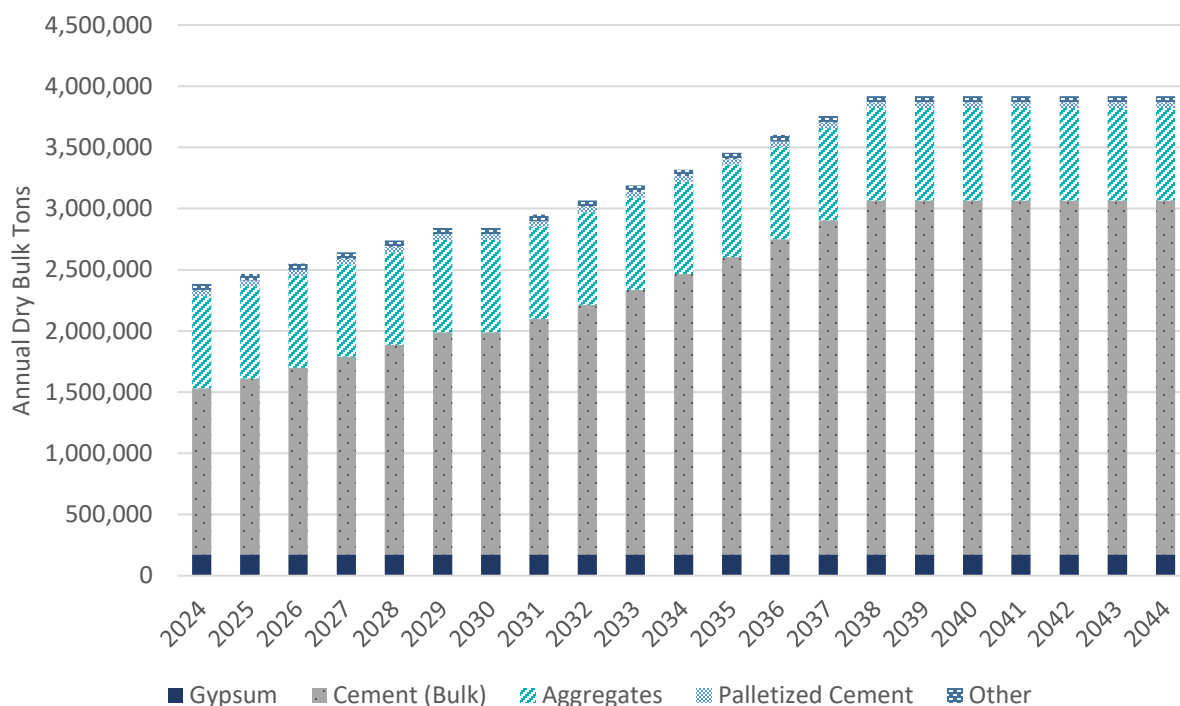
- Dry Bulk Cargo

Overall, the demand for cement, slag, and aggregates is likely to continue to grow in response to highway and other residential and commercial developments in Florida. The upper limit on cement and aggregates imports will likely be the defined capacity of the cement operations (CEMEX and Lehigh), which is about 2.6 million tons based on the berth capacities of Berths 14 and 15 and silo storage capacity. However, there is a berthing issue at Berths 14-5 in that if cement vessels are berthed at both Berth 14 and Berth 15, the vessel docked at Berth 15 extends beyond the slip. This berthing arrangement creates a conflict with cargo and cruise operations

at Berths 16-18, particularly when a large Oasis class cruise vessel is to berth at Cruise Terminal 18. As the cement vessels are anticipated to grow in size to handle 35,000 to 40,000 tons per call, the length of the vessels also increases, exacerbating the Berths 14-15 conflicts when two cement vessels are berthed at the same time.

Based upon recent growth trends, interviews with dry bulk importers, and the growth factors outlined above for cement, aggregates and other materials, the dry bulk cargo forecast through 2044 is summarized in **Figure 14**. This forecast shows that Port Everglades may reach its current cement berth capacity of 2.6 million tons annually by 2036, requiring further expansion to accommodate the forecasted 2044 cement volumes. The forecast also shows the potential for an additional 200,000 to 250,000 tons annually of bauxite, copper ore, and other materials, all of which contribute to a projected 2044 dry bulk volume of nearly 4 million tons annually.

Figure 14: Port Everglades Annual Dry Bulk Cargo Tonnage Projections (2024–2044)



Source: Martin Associates

- Break-Bulk Cargo

For future planning purposes, throughput of steel products will not likely exceed 200,000 tons annually at Port Everglades, as steel throughput has been relatively stable at the Port for the last two decades.

- **Automobiles**

With respect to Port Everglades' projected new automobile imports and exports, even with the addition of a potential new account, future throughput will not likely exceed 50,000 units annually. The most likely scenario is that auto throughput will fluctuate between 15,000 and 30,000 units annually.

- **Other RORO Cargo/Yachts**

Interviews with the key carrier handling yacht transport in South Florida indicated that yacht activity at Port Everglades could more than double in the near term. The carrier currently serves the market via Port Everglades and the Port of Palm Beach, with an annual number of combined vessel calls. Historically, the carrier had berthing issues at the Port, primarily due to conflicts with the cruise operations. The operator has grown significantly over the past 25 years and is hoping to consolidate its Florida operations at Port Everglades. According to the carrier interviews, this consolidation would result in about 100 annual calls within the next five years and would require about 15,000 square feet of fenced area.

- **Liquid Bulk Cargo**

The liquid bulk commodity forecast for 2023 to 2043 suggests the following trends:

- Gasoline throughput is expected to stabilize at around 152-155 thousand barrels per day (TBPD) by the end of the forecast period, indicating a saturation in growth, possibly due to increasing fuel efficiency and alternative energy sources.
- Diesel shows a slight decline in the longer-term forecast, settling at 42 TBPD, which may reflect technological advancements in transportation and a shift towards greener alternatives.
- Jet fuel is projected to see a robust increase, reaching 151 TBPD by 2043, driven by growth in air travel and cargo transport.
- Fuel oil and ethanol are forecasted to maintain steady but relatively low throughput levels, consistent with ongoing but limited demand.

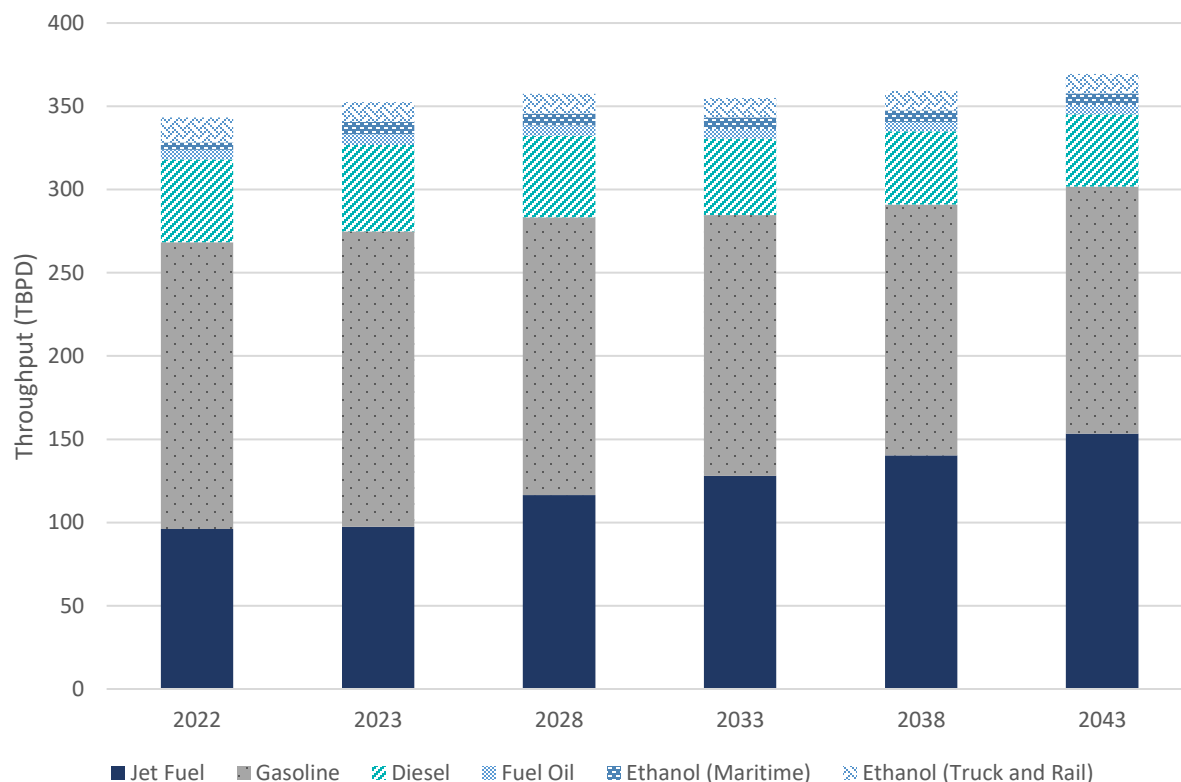
The forecasted commodity figures can be seen in **Table 2** and **Figure 15**.

Table 2: Forecasted Port Everglades Commodity Throughput (TBPD)  
(FY 2022–FY 2043)

Commodity	2022	2023	2028	2033	2038	2043
Jet Fuel	96	98	116	128	140	153
Gasoline	172	177	167	157	151	148
Diesel	50	52	49	46	44	43
Fuel Oil	6	7	6	6	6	5
Ethanol (Maritime)	4	7	7	7	7	7
Ethanol (Truck and Rail)	15	12	12	12	12	12
<b>Total</b>	<b>343</b>	<b>353</b>	<b>357</b>	<b>356</b>	<b>360</b>	<b>368</b>

Source: Port Everglades. Note: 2022 and 2023 values are historical. Forecasts are based on EIA and FAA forecasts.

Figure 15: Port Everglades Throughput Projections (TBPD) (FY 2022–FY 2043)



Source: Port Everglades; AECOM; FAA; EIA

*Estimates of Future Cruise Passengers to be Handled*

To forecast future cruise passenger volumes and calls at Port Everglades, multiple projections were developed based on a combination of factors including market capture rates and differing levels of cruise line commitments and terminal developments (i.e., deployment scenarios). The low scenario serves as the foundational projection, directly tied to the lowest estimates from the likely market

capture methodology. This scenario assumes no significant changes in cruise line deployments or terminal developments beyond current commitments and acts as a cautious estimate.

The mid scenario introduces a more optimistic view, predicated on several key developments and assumptions of increased deployments and terminal developments. These assumptions are as follows:

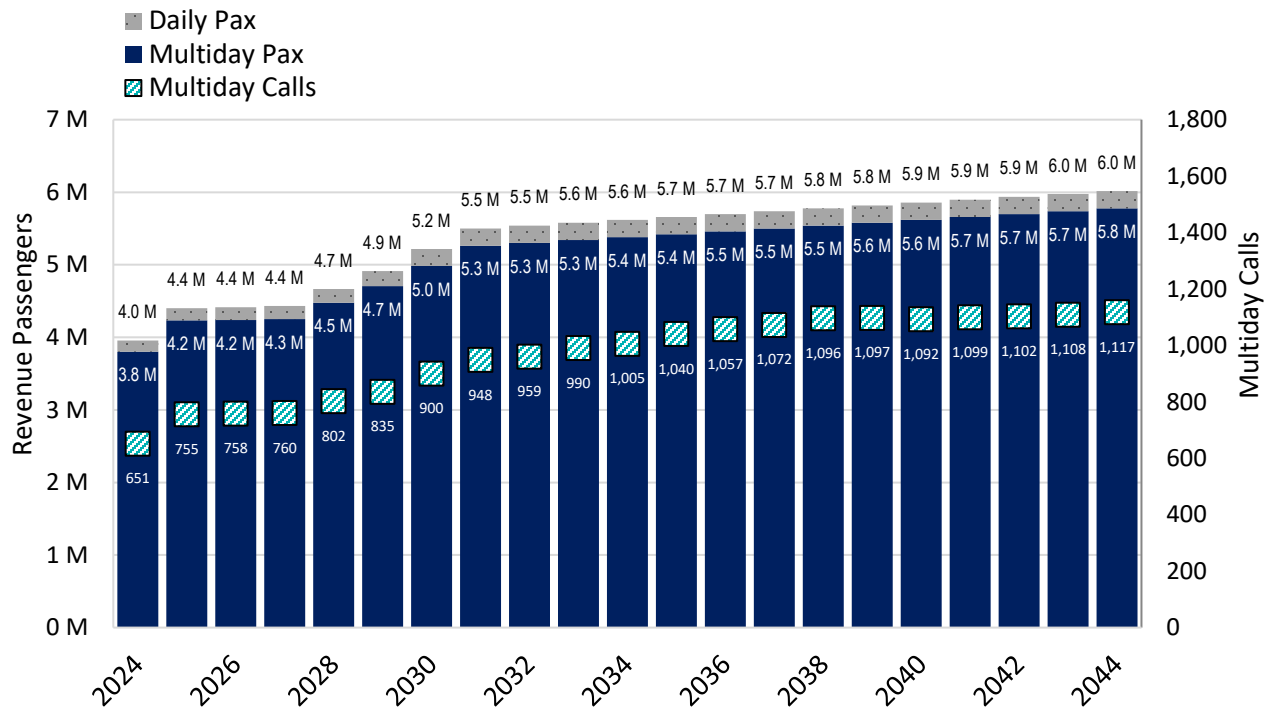
- **Carnival Cruise Line's Return:** Following the completion and renovation of CT-21, Carnival redeploys two vessels to Port Everglades on a seasonal basis, mirroring their historical presence.
- **Additional Seasonal Deployments:** Adding seasonal deployments from smaller luxury brands alongside a larger European contemporary brand to further diversify the Port's cruise line portfolio.
- **Celebrity & Royal Caribbean Cruises Capacity Increase:** Following the future redevelopment of CT-29, Celebrity and Royal Caribbean Cruise Lines both aim to expand their presence with additional ships deployed seasonally, leveraging the enhanced terminal facilities.

The high scenario expands upon the mid scenario, presenting the most optimistic outlook in this methodology. Additional deployments, supplementing those outlined in the mid scenario, include:

- **Year-Round Deployment by Carnival:** One of the Carnival vessels introduced in the mid scenario is deployed year-round.
- **Introduction of an Additional Luxury Brand:** The introduction of an additional luxury brand on a seasonal basis.
- **Enhanced Commitment from Celebrity and Royal Caribbean:** Celebrity and Royal Caribbean Cruise Lines extend their deployment strategies beyond seasonal, incorporating an additional vessel to operate year-round from Port Everglades.

Using the mid-case projections for Port Everglades' daily and multiday passenger volumes, as well as the mid-case projections for multiday vessel calls, the mid-case Deployment Scenario through 2044 is summarized in **Figure 16**. This scenario represents a realistic assessment of future passenger and vessel volumes at Port Everglades based on cruise line trends and actionable opportunities associated with additional traffic growth in the short to medium term. These projections show total daily and multiday annual revenue passenger volumes of approximately 6 million and total multiday vessel calls of 1,117 in 2044.

Figure 16: Port Everglades Revenue Passenger Throughput and Multiday Calls (Mid-Case Deployment Scenario (2024–2044))



Source: Bermello, Ajamil & Partners, Inc.

Summary of Market Forecasts for the 5-, 10-, and 20-Year Planning Horizons

Table 3 summarizes the market forecasts for each of the Port’s business lines at the Plan milestones: 2030, 2035, and 2044.

Table 3: Summary of Market Forecasts by Business Line at Plan Milestones

Business Line	5-Year Plan	10-Year Plan	20-Year Plan
Containerized Cargo – Medium Growth (TEU, Millions)	1.28	1.44	1.72
Dry Bulk Cargo (Tons, Millions)	2.84	3.46	3.92
Liquid Bulk Cargo (TBDP)	356	357	370
Cruise Passengers (Total, Millions)	5.22	5.66	6.01
Daily Cruise Passengers (Millions)	0.24	0.24	0.24
Multi-day Cruise Passengers (Millions)	4.98	5.42	5.77

### *Required Improvements to In-Water and On-Land Facilities*

The needed expansions to in-water and on-land facilities are identified in the 5-year Master Plan and 10- and 20-year Vision Plans. These expansions are described in detail in Element 3 of the Port Everglades M/VP. The 5-year and 10-year plans are summarized in the next section. The 20-year Vision Plan is not included in the Deepwater Port Component Support Document.

### *Infrastructure Required to Meet Anticipated Needs*

The infrastructure required to meet the landside access needs of projected cargo and passenger demands include: the future development of the Airport-Seaport-Convention Center Connector transit system to ease the transfer of passengers between FLL, Port Everglades, and the Convention Center; the addition of a secondary access point in Southport at the terminus of Griffin Road; the reconfiguration of McIntosh Road in Southport to improve traffic flow to and from the container area; the addition of new parking structure capacity at Cruise Terminals 2, 4, 18, 19, and 29; new ground transportation facilities in Midport to provide a centralized staging area for rideshares, taxis, and other pre-arranged rides for cruise passengers and other Port users; a consolidated ground transportation area (GTA) at Lot A in Midport to facilitate seamless transitions to the adjacent cruise terminals; the reconfiguration of the Eller Drive gate to reduce queueing; and the construction of a new petroleum entrance south of Spangler Boulevard to allow liquid bulk trucks to directly access the tank farms.

## Deepwater Port Master/Vision Plan

### Future Port Expansion for the Initial Zero- to Five-Year Period

The Port Everglades M/VP identifies container projects in Northport, Midport, and Southport to improve capacity and accommodate the projected demand for cargo in 2030 and beyond while addressing other critical infrastructure needs.

Container projects in the 5-year Master Plan include the following:

- **Griffin Road Access:** The Griffin Road Access project is potentially one of the most impactful container business line projects proposed in the 5-year Master Plan. Currently, access to Southport is via McIntosh Road from Eller Drive, which is a one-way in, one-way out road network. All trucks that handle container pick-ups and drop-offs traverse this network and enter/exit at the McIntosh Road/Eller Drive intersection. The existing security gates on McIntosh Road and Eller Drive both, at various times, contribute to traffic congestion on these roads and at the gates. The proposed project includes a new Port access gate at the southwest corner of the PJA that would connect to an eastward extension of Griffin Road. This new access route would allow for a direct connection to the south end of McIntosh Road in Southport. The focus of this project is to provide a new entry/exit point for trucks to move containers to and from the Southport container terminals.

- **New VACIS Area in Southport:** The New VACIS Area project includes the creation of a new area for United States Customs and Border Protection (USCBP) to inspect containers. The current inspection areas will constrain future container terminal redevelopments and need to be relocated to minimize impacts to USCBP operations. The proposed project scope includes site grading, paving, lighting, signage, and striping and assumes that utilities would need to be provided for a USCBP booth. The precise location of this project within Southport is to be determined.
- **Container Terminal Redevelopments:** This project includes the modernization, upgrading, and electrification of Southport’s container terminals. This project aims to increase container terminal capacity and throughput via optimization and densification, which includes the conversion of container terminals to hybrid and/or electrified equipment to support more efficient terminal layouts and stacking operations. While the primary goal is to improve and increase productivity within Southport, redevelopment of these terminals (via densification), will also facilitate relocation of the container terminals operations from Midport to Southport, which is included as a separate project in the 10-year Plan and will also facilitate port operational improvements within the Midport area. This project assumes multiple phases during the 5-year and 10-year periods, which includes redevelopments of the Crowley, Florida International Terminal (FIT), and Everglades Company Terminal (ECT) terminals. Phase 1 is assumed to primarily involve improvements to FIT in the 5-year Plan, with Phase 2 assumed to primarily involve improvements to Crowley and ECT in the 10-year Plan. However, it should be noted that improvements could be made to all terminals during these time periods.
- **Container Terminal Utilities and Shore Power:** This project encompasses many different elements within Southport, including utility upgrades, infrastructure improvements and installation of shore power for the container berths. The proposed works are to be performed in four phases across the 5-year, 10-year, 20-year and 20+-year Plans. The Phase 1 project, to be performed in the 5-year Plan, includes new berth restroom facilities and utility/power upgrades to support the first phase of container terminal redevelopments, as noted in the project above. The locations of the new berth restroom facilities and utility/power upgrades are to be determined. Phase 2, in the 10-year Plan includes similar new facilities and upgrades to support the second phase of container terminal redevelopments also included in the 10-year Plan, Phases 3 and 4, to be performed in the 20-year and 20+-year Plans, includes installation of the at-berth shore systems at the Southport container berths, as well as the supporting infrastructure and facilities along the berths and within the container terminals.

Cruise projects in the 5-Year Master Plan include the following:

- **Cruise Terminal 29 Development:** This project involves development of a new cruise terminal, replacing existing facilities, to provide a right-sized terminal building. The existing terminal is generally in poor condition and does not adequately support larger cruise vessels. As such, this

will be the first cruise terminal redevelopment project to move forward. The new development will substantially improve operational efficiency, passenger throughput capacity, berthing capacity (by accommodating larger vessel classes), and the guest experience, which makes this project vital to the Port's future competitiveness. The development includes a new multi-level parking structure, which is addressed as the next project below. The project will include the following: VIP facilities, a new and improved GTA, Berth 29 bulkhead improvements, a fueling connection, and the northern pier extension of Berth 29 to replace the existing mooring dolphin in Tracor Basin and accommodate larger vessel classes.

- **Cruise Terminal 29 Parking Structure:** As part of the Cruise Terminal 29 redevelopment, a new multi-level parking structure will be built adjacent to the terminal. This has been identified as a separate project as a result of different funding sources for development (i.e., no private investment). The parking structure is part of the same Cruise Terminal 29 development area. The proposed parking structure will improve the guest experience by providing convenient parking for drive-in passengers adjacent to Cruise Terminal 29.
- **Berths 16, 17 & 18 Bulkhead Improvements:** This project involves improvement of the bulkheads for Berths 16, 17, and 18, which includes preservation of the existing assets and upgrades for improvement resiliency. The project starts in the 5-year Plan and is completed in the 10-year Plan.
- **Shore Power Systems for Cruise Terminals:** Installation of shore power systems is to be performed for all eight cruise berths within the Port, which are located at Cruise Terminals 2 and 4 in Northport and Cruise Terminals 18, 19, 21, 25, 26, and 29 in Midport. The proposed works are to be performed in four phases across the 5-year, 10-year, 20-year and 20+-year Plans. Phase 1, to be performed in the 5-year Master Plan, will include installation of shore power systems at two cruise terminals; the specific cruise terminals are not yet identified. Shore power installation will include associated electrical distribution systems and berth upgrades. It is intended that shore power systems will be installed at two additional cruise terminals during each of the following time period (i.e., Phase 2 in the 10-year plan, Phase 3 in the 20-year plan, and Phase 4 in the 20+-year plan). The locations of the cruise berths to be upgraded with shore power systems are shown in Figure 3.10.10 (represented by the red dots).
- **New Midport Parking Structures:** Two new multi-level parking structures are proposed for the Midport area of the Port to increase parking capacities within the Port and particularly within Midport. Each parking structure is assumed to have 2,500 spaces and the ground floors could be used for rideshares. The first multi-level parking structure, assumed to be located in Lot C near Cruise Terminal 19, is Phase 1. Phase 2, the second multi-level parking structure, is in the 10-year Plan and is assumed to be located in Lot B near Cruise Terminal 18, although consideration could be given for an alternative location in the Midport area.

Energy projects in the 5-year Master Plan include the following:

- **Slip 1 Widening (Berths 9 & 10):** The Slip 1 Widening project will widen the slip from 300 feet to 450 feet to accommodate larger vessels such as the Aframax class. The project involves excavation of the backland areas behind Berths 9 and 10 by about 150 feet to the south, which requires a new bulkhead for Berths 9 and 10 that will be constructed to provide improved resilience. As part of this project, new liquid bulk transfer facilities are to be added to Berths 14-15 to facilitate relocation of liquid bulk operations to these berths to provide continuity of operations during construction of the Slip 1 Widening. New manifold and pump systems have been constructed between Berth 5 (to the north) and Berths 7-8 (to the south) to support continuing operations and facilitate excavation of the Berths 9-10 backland area.

Port-wide/other projects in the 5-year Master Plan include the following:

- **Port Maintenance Facility:** Development of an on-port consolidated maintenance facility is necessary to improve operations, increase efficiency and lower maintenance costs for the Port. This project allows for the repurposing of existing maintenance facilities at other locations around the Port for higher value (and revenue generating) uses, which includes various locations across the Northport, Midport, and Southport areas. The estimated cost includes the necessary building and supporting facilities, but does not include site preparation costs, which would vary depending on the selected final location for this facility within the Port. At this time, the location for this facility is undetermined.
- **Fire Station Upgrades:** The project involves upgrading the existing fire station building to address age-related deficiencies and improve the Fire Department’s ability to meet current operational needs. The project includes:
  - Expansion of facility bay door clearances to accommodate larger modern equipment,
  - Providing larger indoor storage areas to avoid off-site storage of critical fire-fighting equipment,
  - Improvement of the resilience of the building to extreme weather conditions to avoid needing to have personnel and equipment relocated during storms/hurricanes, and
  - Addressing issues with old sewer systems and other utilities.
- **Balearia Facilities at Berth 28A:** The intent of this project is to provide a permanent berth for the Balearia ferry operations. The proposed site in proximity to Berth 28A is currently occupied by the former Seacor headquarters building, which is now vacant. The project includes demolition of this building and redevelopment of the site to include a new terminal building and associated facilities for processing passengers and loading/unloading cargo.
- **SE 10th Avenue Property Redevelopment:** This project involves repurposing and redevelopment of Phase 1 of the SE 10th Avenue property (formerly known as the Shaw property) to accommodate new Port uses. The development involves only a small portion of

the parcel, located along the eastern side of the property. The project cost includes site preparation, grading, paving, drainage systems, utilities, lighting, and perimeter controls to accommodate potential site uses that could include: storage of empty containers and chassis; container truck staging area for Southport; and storage of non-containerized cargo, including cars (and other RORO), steel products, wood products, etc. The remainder (and majority) of the property could be considered for further development to accommodate other potential port uses, such as a warehouse or labor training facility.

- **Channel Deepening and Widening:** The Channel Deepening and Widening project to be performed by the USACE is one of the most important projects currently planned for the Port. This project has been planned for a significant period of time (about 20 years) and is essential to the Port’s competitiveness and ability to grow and attract new cargo. The project involves:
  - Deepening the Port’s navigation channels from 42 feet to 48 feet,
  - Widening a portion of the ICW (along the northeast side of the channel), which also includes the Southport Access Channel, that requires reconfiguration of the USGC Station on the east side of the channel,
  - Deepening of the Main Turning Basin and Inner Entrance Channel from 42 feet to 48 feet, and
  - Deepening and widening the Outer Entrance Channel from 45 feet deep and 500 feet wide to 55 feet deep and 800 feet wide.

These deepening and widening improvements will allow larger vessels to access the Port, which include container vessels in Southport and liquid bulk vessels in Northport. Furthermore, the improvements also allow for berthing of larger cruise vessels along the ICW at Cruise Terminals 25, 26, and 29 without impeding container vessel traffic to Southport. Other elements of the project include offshore disposal of dredged materials, coral relocation and propagation, coral reef and hard-bottom mitigation and monitoring, and sensitive species (such as manatees) monitoring programs. This is a significant project that is being funded by USACE and the Port; the Port’s funding contribution is \$494 million, which will be distributed over the life of the project that spans across the 5-year, 10-year, and 20-year Plans.

**Table 4** shows the capital improvement projects proposed in the 5-year Master Plan by business line, location, anticipated cost in period, and anticipated total cost. **Table 5** summarizes the capital improvement projects and their source of funding. **Figure 17** shows the proposed locations of the projects in the 5-year Master Plan.

Table 4: 5-Year Master Plan Projects

Project	Business Line	Location	Anticipated Cost in Period (millions)	Anticipated Total Cost (millions)
Griffin Road Access	Container	Southport	\$38.0	\$38.0
New VACIS Area in Southport	Container	Southport	\$3.5	\$3.5
Container Terminal Redevelopments*	Container	Southport	\$150.0	\$450.0
Container Terminal Utilities and Shore Power*	Container	Southport	\$3.0	\$100.0
Cruise Terminal 29 Development	Cruise	Midport	\$253.0	\$253.0
Cruise Terminal 29 Parking Structure	Cruise	Midport	\$68.0	\$68.0
Berths 16, 17 & 18 Bulkhead Improvements*	Cruise	Midport	\$60.4	\$103.0
Shore Power Systems for Cruise Terminals*	Cruise	Northport/ Midport	\$56.0	\$217.0
New Midport Parking Structures*	Cruise	Midport	\$84.0	\$168.0
Slip 1 Widening (Berths 9 & 10)	Energy	Northport	\$224.0	\$224.0
Port Maintenance Facility	Port-Wide/ Other	TBD**	\$60.0	\$60.0
Fire Station Upgrades	Port-Wide/ Other	Midport	\$10.0	\$10.0
Balearia Facilities at Berth 28A	Port-Wide/ Other	Midport	\$25.0	\$25.0
SE 10 <sup>th</sup> Avenue Property Redevelopment	Port-Wide/ Other	Off-Port	\$12.0	\$12.0
Channel Deepening and Widening*	Port-Wide/ Other	Port-Wide	\$114.3	\$494.0
<b>Total 5-Year Project Costs</b>			<b>\$1,161.3</b>	

Source: Port Everglades.

\*Project appears in multiple 2024 M/VP periods.

\*\*Location for the Port Maintenance Facility has not yet been determined.

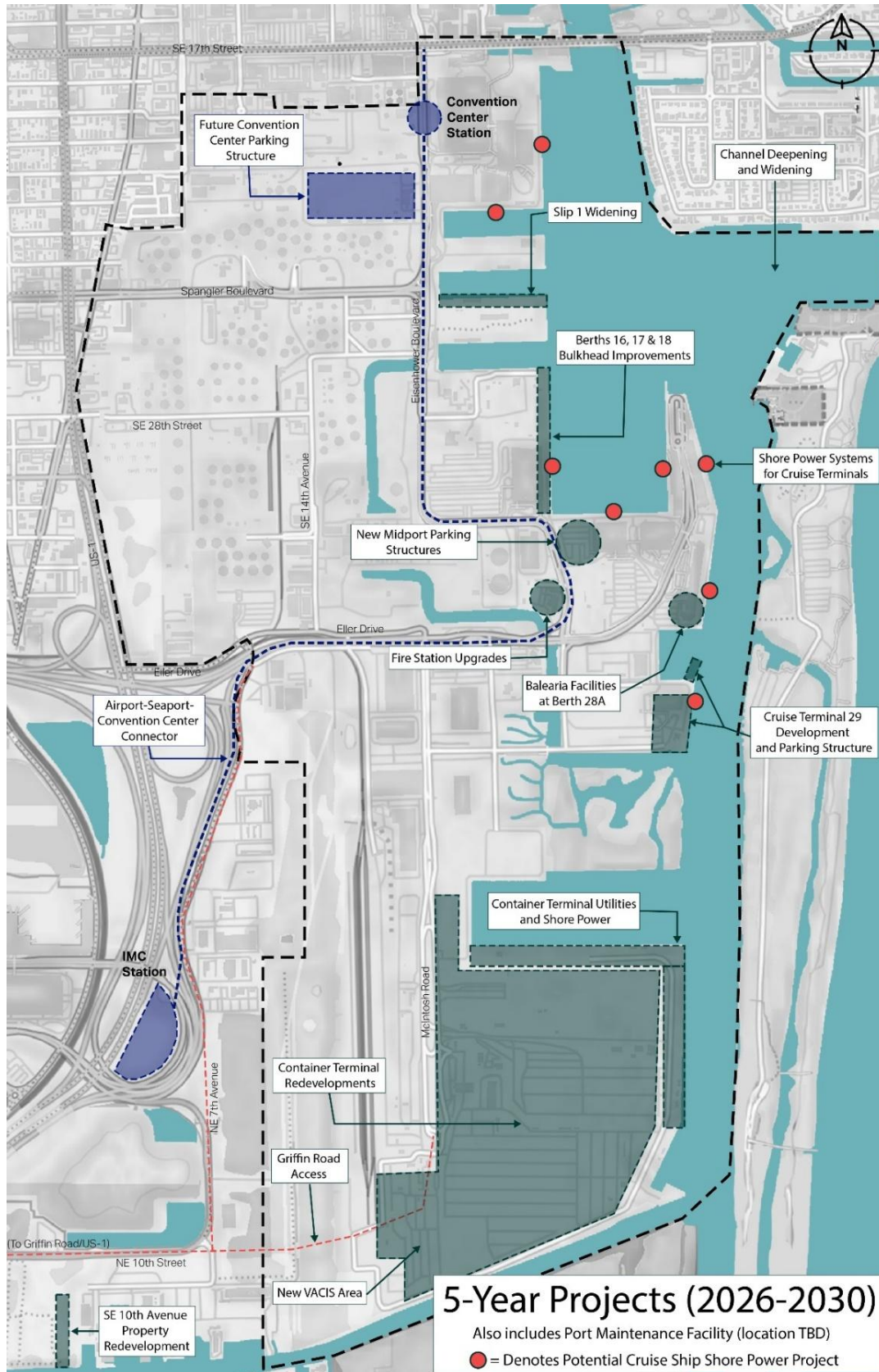
Table 5: 5-Year Master Plan Funding Sources (Millions)

Project	Port Funds	Private Funds	State Funds	Federal Funds	Total Period Cost
Griffin Road Access	\$34.8	-	\$3.2	-	\$38.0
New VACIS Area in Southport	\$3.5	-	-	-	\$3.5
Container Terminal Redevelopments*	-	\$150.0	-	-	\$150.0
Container Terminal Utilities and Shore Power*	\$3.0	-	-	-	\$3.0
<b>Container Subtotal</b>	<b>\$41.3</b>	<b>\$150.0</b>	<b>\$3.2</b>	<b>-</b>	<b>\$194.5</b>
Cruise Terminal 29 Development	\$76.2	\$151.8	\$25.0	-	\$253.0
Cruise Terminal 29 Parking Structure	\$61.6	-	\$6.4	-	\$68.0
Berths 16, 17 & 18 Bulkhead Improvements*	\$9.3	-	\$31.8	\$19.3	\$60.4
Shore Power Systems for Cruise Terminals*	\$52.7	-	-	\$3.3	\$56.0
New Midport Parking Structures*	\$80.8	-	\$3.2	-	\$84.0
<b>Cruise Subtotal</b>	<b>\$280.6</b>	<b>\$151.8</b>	<b>\$66.4</b>	<b>\$22.6</b>	<b>\$521.4</b>
Slip 1 Widening (Berths 9 & 10)	\$146.3	-	\$77.7	-	\$224.0
<b>Energy Subtotal</b>	<b>\$146.3</b>	<b>-</b>	<b>\$77.7</b>	<b>-</b>	<b>\$224.0</b>
Port Maintenance Facility	\$53.2	-	\$6.8	-	\$60.0
Fire Station Upgrades	\$6.8	-	\$3.2	-	\$10.0
Balearia Facilities at Berth 28A	-	\$25.0	-	-	\$25.0
SE 10 <sup>th</sup> Avenue Property Redevelopment (Former Shaw Property)	\$12.0	-	-	-	\$12.0
Channel Deepening and Widening*	\$44.3	-	\$70.0	-	\$114.3
<b>Port-Wide/Other Subtotal</b>	<b>\$116.3</b>	<b>\$25.0</b>	<b>\$80.0</b>	<b>-</b>	<b>\$221.3</b>
<b>Total 5-Year Project Costs</b>	<b>\$584.5</b>	<b>\$326.8</b>	<b>\$227.3</b>	<b>\$22.7</b>	<b>\$1,161.3</b>

Source: Port Everglades.

\*Project appears in multiple 2024 M/VP periods.

Figure 17: 5-Year Master Plan Project Map



Source: AECOM. Note: For planning purposes only.

### Future Port Expansion for the Five- to Ten-Year Period

The Port Everglades M/VP identifies projects in Northport, Midport, and Southport to improve capacity, accommodate the projected demand for cargo and passengers in 2035 and address other critical infrastructure needs.

The container projects that are to begin construction during the 10-year period are discussed further below. Projects that begin the 5-year period and will continue into the 10-year period, as noted above, were discussed as part of the 5-year Plan and are not repeated here.

Container projects in the 10-year Vision Plan include the following:

- Realignment of McIntosh Road:** The McIntosh Road Realignment project is a continuation of the improvement of the Southport transportation network that starts with the Griffin Road Access project included in the 5-year Plan. The Griffin Road project is intended to provide a new gate complex in the southwest corner of Southport and provide a connection to the southern end of McIntosh Road. This project will involve improvement of McIntosh Road up to Eller Drive. The realignment includes optimization and improvement of the current layout (alignment) of the road for more efficient traffic flow to and from the container terminals in Southport. The project is expected to replace the current bi-directional lanes with a one-way truck route; studies will need to be performed to determine the direction of traffic flow, number of required lanes and necessary improvements at the McIntosh Road/Eller Drive intersection. Other project elements will likely include revision of traffic management systems and security protocols, relocation of the radiation portal monitoring station, and potential removal of the existing perimeter security gate complex.
- Container Terminal Relocations from Midport:** Consolidation of containerized cargo in Southport will facilitate improved and more efficient use of the Midport area of the Port, particularly with the anticipated cruise passenger growth forecasted over the next 20 years. Additional space is required to provide the facilities and infrastructure necessary to support that cruise growth. One of the ways to do this is to relocate the current containerized cargo operations in Midport to Southport. This transformation is already in process with relocation of the King Ocean operations in Midport to Southport. Currently, there are two primary containerized cargo operations in Midport – Hyde and SOL. Hyde has an approximately 7-acre parcel located along Berth 16, between Cruise Terminal 18 to the south, the cement terminals to the west, and the Berth 15 (cement berth) to the north. SOL also has an approximately 7-acre parcel, generally located on the northeast corner of the Eller Drive and SE 19th Avenue intersection. Relocation of the Hyde and SOL operations to Southport will require creating space from the container terminal redevelopment included in the 5-year and 10-year Plans. Optimization and densification of those container terminals (Crowly, FIT, and ECT) can be performed to facilitate new space for the Hyde and SOL terminals. Consideration will need to

be given for access to and use of the container berths in Southport, which will likely be the berths in the Turning Notch (Berths 30A/B/C, 30D and 30E); however, this will need to be confirmed. In the case of Hyde, use of the Turning Notch will be an improvement, as current operations are regularly impacted by berthing of Royal Caribbean Oasis Class cruise vessels at Cruise Terminal 18. Although Hyde has developed a work-around to reduce impacts, expected increases in Oasis class berthings at Cruise Terminal 18 in the near term and in the future will eventually result in an untenable operating scenario. The exact locations for the new Hyde and SOL terminals in Southport are not yet known and will need to be determined in conjunction with the Southport container terminal redevelopments. The project cost assumes that all development work at the new terminal locations will be performed by the Port and includes grading, paving, drainage, utility/power upgrades, signage, striping, fencing/barriers, etc. It should be noted that new STS cranes will be necessary to support relocation of these operations to Southport. Two new STS cranes are proposed at Berth 30E – one in the 10-year Plan and one in the 20-year Plan. In addition, a new STS crane is proposed for Berths 30A/B/C in the 20-year Plan.

- **Add STS Cranes at Berth 30E:** As noted in the project above, new STS cranes are necessary at Berth 30E to support increased usage and cargo handling operations. Two new height-restricted STS cranes will be provided: the first (Phase 1) in the 10-year Plan and second (Phase 2) in the 20-year Plan. Phase 1 also includes installation of new crane rails to support the new STS cranes.

The cruise projects that are to begin construction during the 10-year period are discussed further below. Projects that begin the 5-year period and will continue into the 10-year period, as noted above, were discussed as part of the 5-Year Plan and are not repeated here.

Cruise projects in the 10-year Vision Plan include the following:

- **Ground Transportation Facilities:** With the increasing growth of the cruise business and the forecasted increase in cruise passengers, congestion within the Midport area may become an issue. Improved on-Port staging areas for the non-private vehicles that drop off and pick up passengers may become a necessity. The purpose of this project is to provide a centralized and consolidated staging area for rideshares, taxis, and pre-arranged rides to wait for cruise passenger (and other on-Port) pick-ups in a safe easily accessible area. Currently, taxis have an on-Port staging area to the south of the Port Administration building, rideshares do not have an on-Port staging area and are geo-fenced such that they can only accept pick-up calls from outside the Port boundary, and pre-arranged rides (limos, shuttles, etc.) park on-Port but do not have a designated location. New ground transportation facilities would consolidate all rideshares, taxis, and pre-arranged rides into a centralized staging area within Midport. The costs for these facilities include pavement rehabilitation, roadway and entrance improvements, traffic management systems, striping, signage/wayfinding, and perimeter controls. It is not

intended for this facility to be accessed by cruise passengers (or any other users) for pick-ups, but rather to be a staging area for intended pick-ups. This project would need to be aligned with the Airport-Seaport-Convention Center Connector and support cohesive and efficient transportation throughout the Port complex.

- **Cruise Terminal 21:** Cruise Terminal 21 is an important development to support the Port's competitiveness within the cruise industry. The current terminal requires upgrade, improvement, and optimization to support cruise operations today and into the future, especially with the increasing size and number of passengers from next-generation cruise vessels. The constricted area between Cruise Terminals 21 and 25 (to the east) hampers terminal access and GTA activities for both terminals that, on busy port days, create significant traffic congestion and safety concerns. In addition, the apron at Berth 21 is narrow and needs to be widened. Lastly, the existing bulkhead at Berth 21 requires structural upgrades and resiliency improvements. The new cruise terminal development will replace the existing terminal with a more efficient, right-sized building that will support widening of the Berth 21 apron and GTA and traffic improvements in front of the terminal – all within the same total footprint. This will likely result in a unique terminal building design with more compact ground floor and a second floor with a larger footprint to accommodate more passenger processing facilities. The development will also need to address baggage handling, provisioning, and other berth-wide activities and needs. Overall, the project will include the new terminal building, improved GTA and roadway network, bulkhead improvements that include a wider apron, and potential upgrades to the adjacent Palm Garage for passenger access and to support the building design. The project starts in the 10-year Plan and will be completed in the 20-year Plan.

Energy projects in the 10-year Vision Plan include the following:

- **Berths 7 & 8 Bulkhead Improvements:** Improvements of the bulkheads at Berths 7 and 8 is the second phase of the Slip 1 Widening project that is included in the 5-year Plan. Slip 1 is the original and oldest slip within the Port, so the existing bulkhead structures require repair/replacement and resiliency upgrades.

Port-wide/other projects in the 10-year Vision Plan include the following:

- **Eller Drive Gate Reconfiguration:** The traffic in and around Port Everglades can be quite heavy during peak hours, leading to inconveniences for both Port users and the local community. This is particularly the case for the Eller Drive perimeter gate, where the current gate operations and configuration create conflicts with trucks entering and existing McIntosh Road prior to the gate. Reconfiguration of the Eller Drive gate can address these issues and improve the performance of the gate and traffic processing. Potential solutions could include, but are not limited to: realignment of the entry/exit gate kiosk and lanes in both directions into a more efficient layout; improved signage/wayfinding and striping; addition of automated systems and

lanes dedicated to key card access; and change to vehicle processing procedures and security protocols.

Table 6 shows the capital improvement projects proposed in the 10-year Vision Plan by business line, location, anticipated cost in period, and anticipated total cost. Table 7 summarizes the capital improvement projects and their source of funding. Figure 18 shows the proposed locations of the projects in the 10-year Vision Plan.

Table 6: 10-Year Vision Plan Projects

Project	Business Line	Location	Anticipated Cost in Period (millions)	Anticipated Total Cost (millions)
Container Terminal Utilities and Shore Power*	Container	Southport	\$35.0	\$100.0
Add STS Cranes at Berth 30E*	Container	Southport	\$20.0	\$50.0
Add STS Crane at Berth 31-32	Container	Southport	\$20.0	\$20.0
Add STS Crane at Berth 30A/B/C	Container	Southport	\$20.0	\$20.0
East Extension of Berths 14-15	Non-Container	Midport	\$5.0	\$5.0
Berth 30E East Extension and RORO Ramp	Non-Container	Southport	\$30.0	\$30.0
Slip 3 Widening	Non-Container	Northport	\$224.0	\$224.0
Slip 2 Widening*	Non-Container	Northport	\$14.5	\$224.0
Shore Power Systems for Cruise Terminals*	Cruise	Northport/ Midport	\$51.0	\$217.0
Cruise Terminal 21*	Cruise	Midport	\$236.5	\$307.0
Additional Parking for Cruise Terminals 2 & 4	Cruise	Northport	\$32.0	\$32.0
Cruise Terminal 19	Cruise	Midport	\$177.0	\$177.0
Consolidated GTA	Cruise	Midport	\$52.0	\$52.0
Cruise Terminal 18*	Cruise	Midport	\$128.0	\$154.0
Cruise Terminal 26*	Cruise	Midport	\$61.8	\$116.0
New Petroleum Entrance South of Spangler	Energy	Northport	\$10.0	\$10.0
Channel Deepening and Widening*	Port-Wide/ Other	Port-Wide	\$290.0	\$494.0
<b>Total 20-Year Project Costs</b>			<b>\$1,432.8</b>	

Source: AECOM (2024 M/VP Element 3.10)

\*Project appears in multiple 2024 M/VP planning periods.

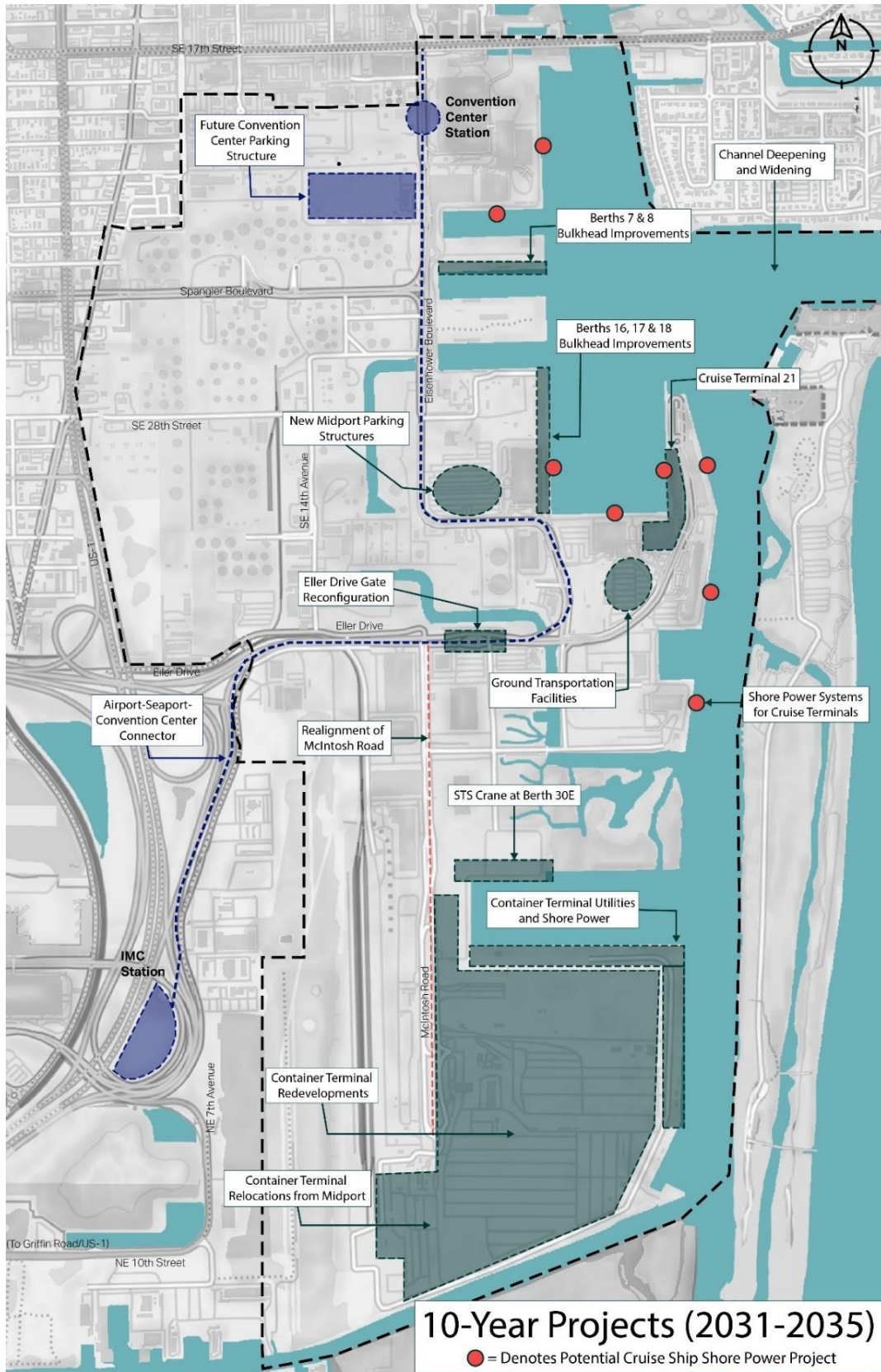
Table 7: 10-Year Vision Plan Funding Sources (Millions)

Project	Port Funds	Private Funds	State Funds	Federal Funds	Total Period Cost
Container Terminal Redevelopments*	-	\$300.0	-	-	\$300.0
Container Terminal Utilities and Shore Power*	\$3.0	-	-	-	\$3.0
Realignment of McIntosh Road	\$23.8	-	\$3.2	-	\$27.0
Container Terminal Relocations from Midport	\$27.0	-	-	-	\$27.0
Add STS Crane at Berth 30E*	\$30.0	-	-	-	\$30.0
<b>Container Subtotal</b>	<b>\$83.8</b>	<b>\$300.0</b>	<b>\$3.2</b>	<b>-</b>	<b>\$387.0</b>
Berths 16, 17 & 18 Bulkhead Improvements*	\$42.6	-	-	-	\$42.6
Shore Power Systems for Cruise Terminals*	\$60.0	-	-	-	\$60.0
New Midport Parking Structures*	\$77.6	-	\$6.4	-	\$84.0
Ground Transportation Facilities	\$9.8	-	\$3.2	-	\$13.0
Cruise Terminal 21	\$13.2	\$42.3	\$15.0	-	\$70.5
<b>Cruise Subtotal</b>	<b>\$203.2</b>	<b>\$42.3</b>	<b>\$24.6</b>	<b>-</b>	<b>\$270.1</b>
Berths 7 & 8 Bulkhead Improvements	\$38.0	-	\$15.0	\$20.0	\$73.0
<b>Energy Subtotal</b>	<b>\$38.0</b>	<b>-</b>	<b>\$15.0</b>	<b>\$20.0</b>	<b>\$73.0</b>
Eller Drive Gate Reconfiguration	\$10.8	-	\$3.2	-	\$14.0
Channel Deepening and Widening*	\$19.7	-	\$70.0	-	\$89.7
<b>Port-Wide/Other Subtotal</b>	<b>\$30.5</b>	<b>-</b>	<b>\$80.0</b>	<b>-</b>	<b>\$221.3</b>
<b>Total 10-Year Project Costs</b>	<b>\$355.5</b>	<b>\$342.3</b>	<b>\$116.0</b>	<b>\$20.0</b>	<b>\$833.8</b>

Source: Port Everglades.

\*Project appears in multiple 2024 M/VP planning periods.

Figure 18: 10-Year Vision Plan Project Map



Source: AECOM. Note: For planning purposes only.

# ANALYSIS REQUIREMENTS

## Existing Land Use Analysis

### Conflicts Among Shoreline Uses

There are no identified conflicts among shoreline uses in the PJA, which is the result of the following actions covering the entire PJA: the adoption of the Port Everglades Transportation Area land use designation by the Broward County Land Use Plan; the adoption of a unified zoning district; the designation of the Port Everglades Development District (PEDD) by the municipalities of Fort Lauderdale, Hollywood, and Dania Beach; and the adoption of an Interlocal Agreement, dated May 6, 1994, between Broward County and the three municipalities, which specifies jurisdictional responsibilities in the PJA.

### Need for Water-Dependent and Water-Related Uses

On November 13, 2025, the Broward County Board of County Commissioners adopted the 2024 Port Everglades M/VP. This document, referred to hereafter as the 2024 Update, replaces the previous 2020 Port Everglades M/VP. The 2024 Update is the principal source of this Deepwater Port Component Support Document and will be incorporated in its entirety into the Deepwater Port Component of the Broward County Comprehensive Plan. The Port Everglades M/VP recommends that several water-dependent and water-related capital improvements be made in the PJA to meet projected demand through the 5-, 10-, and 20-year planning horizons. Only the 5-year Master Plan and 10-year Vision Plan components are discussed in detail in this document.

## Impacts to Natural Environment

**Table 8** summarizes the project types that may affect the natural environment and that may require environmental permits from USACE, FDEP, and/or PWESD. Potential impacts to species listed under the ESA will likely require consultation with NMFS and/or USFWS. Coral removal, relocation, and propagation activities will require a Special Activities License from FFWCC.

Table 8: Summary of 2024 M/VP Update Impacts to the Port’s Natural Environment

Environment/ Species	Berth and Apron	Channel	Cruise Terminal	Logistics	Parking	Transportation
Upland Habitats		X		X		X
Beaches and Dunes		X				
Freshwater Wetlands				X		X
Mangroves		X				X
Seagrasses	X	X				
Artificial Substrates	X	X				
Coral, Reef, & Hardbottom	X	X				
Shorebirds & Wading Birds		X	X	X	X	X
Manatees	X	X				
Sea Turtles	X	X				
American Crocodile	X	X				
Mobile Marine Species	X	X				
Smalltooth Sawfish	X	X				

### Upland Habitats

Port Everglades uses native species as required by municipal and County regulations and has worked with FPL to remove exotic species, with recent upland plantings at Marnelli Park. Impacts to upland protected species are not anticipated due to absence and impacts to upland habitats will be addressed through county and municipal tree ordinances.

### Beaches and Dunes

The Channel Deepening and Widening project will dredge up to 6.63 million cubic yards of marine sediment and place beach-compatible material on Dr. Von D. Mizell-Eula Johnson State Park beach shoreline. Future maintenance dredging will also place beach-compatible sand on Dr. Von D. Mizell-Eula Johnson State Park beach shoreline. Sand placement is intended to nourish erosional sections of beach shoreline, benefiting park tourism as well as wildlife.

### Freshwater Wetlands

Offsite properties acquired by Port Everglades might contain freshwater wetlands that would be impacted by filling or alteration of hydrology. The proposed Griffin Road extension might also impact freshwater wetlands. All wetland impacts must be avoided and/or minimized to the maximum extent practicable, and unavoidable impacts to wetlands will likely need to be mitigated per environmental permit requirements.

### Mangroves

The proposed Griffin Road extension might also impact mangroves. The Port has constructed mangrove and seagrass habitat within West Lake Park to mitigate for the Channel Deepening and Widening project, and surplus mangrove mitigation not required for the Channel Deepening and Widening project will likely be available to use as mitigation for other projects. The five-year monitoring period for the West Lake Park mitigation project is currently ongoing.

### Seagrass

Seagrasses and other submerged aquatic vegetation (SAV) are estuarine wetlands and projects that impact the seabed will likely need to include SAV surveys during the appropriate season, as well as environmental permitting and mitigation for unavoidable impacts. The Channel Deepening and Widening project, as well as the reconstruction and expansion of berths and bulkhead replacement projects directly impact SAV. These activities increase turbidity and cause suspended sediment to settle onto SAV. Mitigation for unavoidable SAV impacts is very difficult due to scarcity of land appropriate for SAV habitat restoration or creation, and it is expected that there will not be sufficient SAV mitigation credit available at West Lake Park for the Channel Deepening and Widening project. Additional mitigation options are currently being evaluated for the Channel Deepening and Widening project. As well as any other future projects.

### Artificial Substrates

Construction involving bulkheads and other manmade structures in contact with the marine environment (artificial substrates) may impact SAV, corals, and other sessile organisms attached to them, will require surveys, environmental permitting, and mitigation for unavoidable impacts. Mitigation requirements might include relocation of SAV, corals, and other sessile organisms prior to commencing construction, and/or the placement of submerged artificial substrate to replace marine habitat.

### Coral, Reef, and Hardbottom

Impacts to coral, reef (including the conch population), and hardbottom require surveys, environmental permitting, and mitigation for unavoidable impacts. The Channel Deepening and Widening project is anticipated to include the placement of approximately 5 acres of limestone boulder material offshore to mitigate for unavoidable impacts to coral, reef, and other hardbottom associated with the Channel Deepening and Widening project. This project will also include restoration of 15 acres of degraded sites and 79 acres of reef enhancement with a focus on assisted reproduction or propagation of coral for transplanting offshore.

### Shorebirds

Shorebirds may benefit from placement of dredged material onto adjacent Dr. Von D. Mizell-Eula Johnson State Park beach shoreline, which enhances habitat for nesting and foraging.

### Wading Birds

Freshwater wetland impacts potentially also impact wading bird species, through direct removal of foraging and nesting habitat, or indirectly through disturbance.

### Manatees

*Broward County Comprehensive Plan* prohibits construction within Manatee Essential Habitat. Dredging and in-water construction associated with berths and bulkheads have the potential to directly impact manatees. Manatees may also be indirectly impacted through removal or degradation of seagrass. All construction will adhere to the USFWS *Standard Manatee Construction Conditions for In-Water Work* and will be designed with manatee protection measures per the Broward County Manatee Protection Plan.

### Sea Turtles

Dredging and in-water construction have the potential for direct impacts to sea turtles through entrainment or collision, and indirect impacts through noise disturbance or removal of seagrass foraging habitat. The NMFS *Sea Turtle and Smalltooth Sawfish Construction Conditions* will be implemented during all in-water construction activities.

### Crocodiles

Noise and disturbance from dredging activities and in-water construction will likely cause the species to avoid these areas, making direct impacts unlikely. Indirect impacts from disturbances may temporarily cause increased stress levels and disruption of normal behaviors. Permanent adverse effects are not anticipated.

### Fish and Mobile Marine Species

Construction activities such as confined blasting, in-water demolition of bulkheads and other structures, dredging, and filling of seabed have the potential to impact these species. Direct impacts may include entrainment and collision, while indirect impacts may include removal of habitat or disturbance from noise. Increased noise and vessel/equipment activity can temporarily increase stress levels which may disrupt normal function and behaviors. Permanent adverse effects are not anticipated.

### Smalltooth Sawfish

NMFS *Sea Turtle and Smalltooth Sawfish Construction Conditions* will be implemented during all in-water construction activities.

## Future Climate Impacts

Sea level rise, extreme heat, and extreme rainfall and storm events represent the most significant climate change-related risks to the Port's operations, existing facilities and future projects. These hazards have the potential to damage critical infrastructure, increase maintenance and operational

costs, pose safety risks to employees, and cause adverse environmental impacts. Understanding projected impacts of these climate risks is a critical first step in developing effective mitigation and adaptation strategies.

### Sea level Rise Impacts

The Southeast Florida Regional Climate Change Compact (Compact), a collaborative between Broward, Palm Beach, Miami-Dade and Monroe Counties, updated the unified regional projection in 2019. In 2024, the Compact issued guidance for the continued use of the 2019 Regionally Unified Projections as the basis for resilience planning, design, and construction. The unified sea level rise projection is to be used for planning purposes to aid in understanding of potential vulnerabilities and to provide a basis for developing risk informed adaptation strategies for the region. In the near term, sea level rise is projected to be 10 to 17 inches by 2040 and 21 to 54 inches by 2070 (above the 2000 mean sea level). The Port will integrate these projections, and any other future updates, into the planning, design, and implementation of future projects to ensure that these projects and assets are protected from the impacts of sea level rise over their intended design life. To this end, all bulkhead replacements are being designed to support the structural load of adding up to four feet of seawall cap, which can be raised in one-foot increments as needed.

Using the NOAA Sea Level Rise Viewer, the impacts of such higher water levels on the Port can be visualized at these different amounts of sea level rise. **Figure 19** displays the Mean Higher High Water (MHHW) conditions for the Port area under existing conditions and with 12 inches and 48 inches of sea level rise to indicate midline water conditions projections for 2040 and 2070, respectively.

Figure 19: MHHW Conditions at Existing Sea Level, with 1 Foot of Sea Level Rise, and with 4 Feet of Sea Level Rise



Source: NOAA Sea Level Rise Viewer.

Based on the current sea level rise projections, the marsh wetland areas west of Southport and the eastern edge of the Southport Turning Notch mangroves are expected to experience regular inundation during high tide conditions with approximately 12 inches of sea level rise. The mangrove and associated vegetation communities in these areas are not adapted to sustained flooding, and such conditions could result in the degradation or loss of these natural habitats, along with the critical wave attenuation and shoreline protection benefits they provide.

By approximately 48 inches of sea level rise, much of the Port's existing bulkheads are projected to continue preventing flooding during average high tide conditions across most Port areas. However, localized flooding is anticipated at Berths 7 and 9a under these elevated future water levels. Frequent inundation of these areas could disrupt Port operations and cause operational downtime. Additionally, higher baseline water levels are likely to increase wave energy and exacerbate erosion and structural stress on coastal protection infrastructure.

At approximately 72 inches of sea level rise, more extensive overtopping of the Port's shoreline is projected during high tides, potentially resulting in widespread flooding across multiple operational areas. Under these conditions, critical assets such as electrical systems, loading equipment, and access roads could be compromised. Prolonged inundation may also lead to accelerated deterioration of bulkheads, pavements, and subsurface utilities, increasing maintenance demands and long-term repair costs. In addition to direct physical impacts, these conditions could severely disrupt port logistics, vessel access, and cargo handling operations, posing substantial economic and safety challenges if adaptive measures are not implemented in advance.

It is important to note that these projections only consider flooding associated with average high tide conditions. Coastal storms, seasonal king tides, and other extreme water level events could result in flooding and associated impacts well before these sea level rise thresholds are reached, emphasizing the need for proactive adaptation and resilience planning.

### Extreme Heat Impacts

Operating in South Florida, the Port is exposed to high temperatures, particularly during summer months. Due to climate change, the region's summer temperatures are expected to reach extreme heat levels (95°F or higher) more consistently. According to the 5th National Climate Assessment (NCA), Broward County could experience an additional 69 days per year with temperatures exceeding 95°F or higher if global temperatures rise by 5.4°F (3°C), as projected by midcentury under midline or higher emissions pathways in the 5th NCA.

An increase in annual extreme heat days is likely to strain the Port's infrastructure and operations. Prolonged exposure to high temperatures can stress pavement surfaces and accelerate the degradation of infrastructure components not designed for such conditions, leading to higher maintenance costs and potential failures. Additionally, sustained high temperatures pose significant risks to outdoor employees, increasing the likelihood of heat-related illnesses such as heat stroke or

exhaustion. Without adequate protective measures, such as proper equipment or scheduled breaks, these conditions could result in higher rates of accidents and jeopardize worker safety. Lastly, high-heat events will require the increased use of air conditioning and other cooling equipment, potentially increasing daily operational costs for the Port.

### Intense Rainfall Events

While climate change's impact to long-term precipitation patterns is under continued study, Southeast Florida rainfall events in recent years have become noticeably more intense, with more inches of rainfall falling per hour. More intense rainfall events can overwhelm the Port's stormwater system, leading to ponding in low-lying areas that can disrupt operations and increase risks to employee life and safety.

For example, in April 2023, an extreme precipitation event occurred in the Fort Lauderdale area, producing over 25 inches of rain in 12 hours. This amount of rain, estimated as a 1,000-year event, coincided with a high tide, leading to flooding impacts at several areas of the Port. The largest impacts were within the liquid bulk terminals, where flooding occurred in the berm areas of the tank farms, which are neither owned nor operated by the Port. A similar rainfall event occurred in June 2024, impacting Port operations.

The number of days per year where Broward County could expect a 1 percent annual chance (100-yr) rainfall event to occur is expected to increase by 12 percent, if global temperatures rise by 5.4°F (3°C), as projected by midcentury under midline or higher emissions pathways in the 5th NCA. The Port may need to update stormwater infrastructure to maintain proper collection and discharge of runoff during these more frequent, intense events. The Port may also explore increasing the amount of on-site stormwater retention to reduce the rate of runoff entering the system. Lastly, increased runoff volumes will likely result in higher discharged volumes for which the Port will be responsible for managing. The Port may need to improve and/or update stormwater management and water quality measures to safeguard sensitive offshore habitats.

### Resilience Actions

The Port relies on, and will continue to integrate, a variety of regional and national planning initiatives to assess the vulnerabilities of its assets and operations to climate change. These sources help to identify specific risks, informing planning efforts, and guide the implementation of resilient solutions to safeguard the Port's functionality and surrounding ecosystems.

#### *Statewide Vulnerability Assessment*

In 2024, FDEP completed a comprehensive flood vulnerability and sea level rise assessment (Statewide Assessment) to identify key assets and infrastructure at risk to sea level rise influenced flooding through 2070. The Statewide Assessment was completed at the county level and as a coastally located county, Broward County was found to have substantial assets at risk. The findings of the Statewide Assessment

can be used to prioritize assets and infrastructure for adaptation actions ahead of projected sea level rise impacts.

#### *Broward County Climate Change Element*

As outlined in the 2020 M/VP Update, the Port will continue to implement the Port-specific actions in-line with the Broward County Climate Change Element adopted into the County's Comprehensive Plan in 2019. The goals and policies in this element provide specific direction to local government agencies, including the Port, on critical issues to address in the context of climate change, including action items that affect immediate planning at the Port. The action items include several focus areas including promoting the use of renewable energy and alternative fuels, encouraging the design of efficient buildings and resilient infrastructure, protecting and enhancing natural systems and water resources, and utilizing green infrastructure.

#### *Broward County Resilience Plan*

In 2022, the County's PWESD began a county-wide planning effort to build community resilience to climate change impacts through 2070. The planning effort, led by Hazen and Sawyer, will address the County's increasing climate risks through the lens of infrastructure, transportation systems, critical infrastructure such as the Port, and land use changes. The Plan intends to recommend additional surface water storage, increasing the use of green infrastructure elements, hardening key infrastructure, and potentially redeveloping or relocating critical areas and assets. The Port will ensure that future projects and initiatives are aligned with the County's Resilience Plan.

At a 2023 meeting of the Resilience Plan's Steering Committee, the results from a County-wide temperature hot-spot analysis were presented to identify areas more prone to elevated surface temperatures, relative to surrounding areas. The Port area was identified as a hotspot area due to its extensive impervious surfaces, including large areas of concrete and pavement, and comparatively low levels of vegetation. The Port may use the findings of this analysis to guide the implementation of green infrastructure elements aimed at mitigating the heat island effect. Expanding green infrastructure can also yield co-benefits, including improved stormwater management and reduced heat exposure for outdoor workers at the Port, contributing to a safer and more sustainable operational environment.

#### *Broward County Regional Standards for Seawalls & Flood Barriers*

In 2020, the County Board of Commissioners adopted an updated standard for the minimum elevation for seawalls in the County. The policy mandates that to mitigate impacts of sea level rise through 2070, tidally influenced areas, such as the Port, must raise all new and substantially improved seawalls by a minimum of 5 feet (NAVD88) by 2050. This policy intends to ensure that the minimum seawall elevation across the County is consistent by midcentury to provide a consistent level of flood protection. The Port will comply with this policy and has begun the process to elevate the Port's seawalls to this minimum height prior to 2050.

#### *Stormwater Pollution Prevention Plan*

The Port's 2025 SWPPP was completed to identify potential pollution sources associated with Port activities that may affect the quality of stormwater runoff from the Port, leading to potential environmental issues in the Intracoastal Waterway. The plan complies with the NPDES and is considered a 'living document' that will be amended over time to capture stormwater discharge changes from new projects.

The Port has completed, or in the process of implementing, several localized resilience-building initiatives designed to enhance the long-term resilience of the Port, and the broader regional area.

#### *Southport Turning Notch Expansion Mangroves and Wetlands*

As part of a deed transfer with the State of Florida for the Southport Turning Notch Expansion in 2016, the Port created approximately 16 acres of mangrove habitat intended to remain undeveloped. The Port coordinated closely with local environmental groups and FDEP to plant 70,000 new mangrove and wetland plants.

#### *Sand Bypass Project*

The Sand Bypass project's goal is to enhance the operational resilience and environmental sustainability of the Port while supporting regional shoreline protection efforts. Consisting of four phases, the Project will dredge an area north of the north jetty, enhance the north jetty, transplant nursery-propagated corals to new artificial reef areas and relocate existing corals that may be affected within the footprint of the project, and remove previously disposed rubble. These improvements will create natural sand trap areas to reduce the frequency of dredging required to maintain the Federal navigation channel. The sand traps and artificial reef structures will also mitigate wave-impacts and erosion to the north jetty, reducing long-term maintenance costs. Additionally, the project will preserve habitat and nesting grounds for three endangered and four threatened species. Sand dredged from the first phase will supplement the County's Segment III Shore Projection Project, avoiding the need to truck in sand from elsewhere in the State, reducing both economic and environmental costs.

#### *Coral Reef Restoration*

Ahead of the proposed Channel Deepening and Widening project, the Port is proactively working with USACE to protect endangered species at risk of being affected by dredging activities. USACE plans to relocate endangered species to other reef enhancement sites and plant over 100,000 nursery-propagated corals. These efforts will help preserve the natural habitat in the Port's offshore areas and support the ecological resilience of the surrounding marine environment.

## Analysis of Historic Resources

Only one building in the PJA has been identified as containing historic resources. The former U.S. Customs House, once federally owned, but transferred to Broward County in 2004, is listed in the Florida Master File (Site BD00210). Florida's Historical Resources Division determined the property to

be eligible for designation on the National Register of Historic Places, but no action has been taken to pursue this eligibility. Any future discovery and preservation of historic or archeological resources in the PJA will be subject to applicable local, state, and federal regulations.

## Estuarine Pollution Analysis

### Assessment of General Conditions

Port Everglades does not function in the classical definition of an estuary. This man-made port facility receives waters from the south via the ICW, from the west via the Dania Cut-Off Canal, and from the north by way of the New River system. All land in the Port is bulkheaded except for the FPL cooling water intake and discharge canal and a 66-acre mangrove area in Southport, which is protected by riprap. The Port has conducted sediment analysis, chemical analysis of the water column, and macroinvertebrate investigations associated with dredging projects or for scientific study. Data indicate that, for all parameters studied, the health of the Port's environment is within the standards set by local, state, and federal agencies; however, the Port has no control on the quality of the water that enters the Port through the referenced water systems.

### Assessment of Development and Redevelopment

The widening of Slip 1, which will be carried out in two separate phases across both the 5-year Master Plan and 10-year Vision Plan, will remove a portion of the petroleum contamination currently contained in the bulkheads at that location. Any remaining product will be contained within new bulkheads with greater lifespan and durability.

### Assessment of the Impact of Facilities Proposed in the Transportation and Infrastructure Elements of the Broward County Comprehensive Plan Upon Water Quality, Circulation Patterns, and Accumulation of Contaminants in Sediments

It is anticipated that the facilities proposed in the M/VP will have no significant impact on the water quality, circulation patterns, and accumulation of contaminants in sediments located in the PJA.

### Actions Needed to Remedy Existing Pollution Problems

The non-profit PEECO, representing the majority of petroleum terminal operators in the PJA, has identified areas of concern that exhibit free-floating petroleum product landward of the Port's bulkheads. In cooperation with the Port, PEECO has worked with FDEP and has prepared a Contamination Assessment Report, conducted a comprehensive Environmental Risk Assessment, and conducted initial remediation activities in the Port-owned common areas containing underground petroleum pipelines. Subsequent activities involving PEECO, the Port, and FDEP have centered around ongoing free-phase petroleum hydrocarbon removal from the ground on the petroleum piers using state funds from the Inland Protection Trust Fund.

### Regulatory Programs Used to Maintain or Improve Estuarine Quality

PED will continue to pursue the maintenance of estuarine quality through the implementation of the Port's NPDES permit, which requires the water quality management of stormwater runoff in the PJA and will continue to install pollution-retardant structures in all new drainage facilities in accordance with best available construction technology practices.

Section 27 of the Broward County Code specifies pollution regulations which are enforced by PWESD. These regulations enforce the provisions of the Federal Clean Air Act and Clean Water Act in Broward County, which include the PJA. All requests for construction and maintenance dredging will follow federal, state, and county dredge and fill permitting procedures, which require the application of turbidity controls during dredge and fill activities along the waterfront.

The Port's Oil Spill Contingency Plan is fully coordinated with USCG, the South Florida Regional Planning Council, the Florida Marine Patrol, the Broward County Emergency Management Division, the Broward County Sheriff's Office, and the Port Everglades Public Safety Division. This coordination is managed by the Port Everglades Cleanup Committee, which maintains oil spill response equipment on a full-time basis. The Port's Public Safety Division also maintains its own equipment and serves as the first line of defense in the event of an oil spill.

### Analysis of Natural Disaster Planning Issues

#### Analysis of Hurricane Evacuation Planning

##### *Hurricane Vulnerability Zone*

All of the PJA is located in Broward County's Hurricane Vulnerability Zone. Deepwater ports, by definition, are constructed in coastal areas. In South Florida, all coastal areas are subject to periodic hurricane impacts. Hurricane preparedness, hurricane mitigation, and post-disaster redevelopment will continue to be significant considerations when developing operation plans and capital improvements programs in the PJA.

##### *Number of Persons Requiring Evacuation*

Residential uses are not permitted in the PJA; therefore, it is anticipated that no residents will require evacuation from the PJA due to an anticipated hurricane storm event. Ships in port will be encouraged by the Harbormaster to evacuate the Port well before the arrival of the storm. The crews are expected to accompany their ships that leave port. The evacuation of Port Everglades' employees and tenants will occur in accordance with the Port Everglades Hurricane Procedure & General Disaster Plan & Continuity of Operations Manual.

##### *Number of Persons Requiring Public Hurricane Shelter*

Residential uses are not permitted in the PJA; therefore, it is anticipated that no residents will require public hurricane shelters due to an anticipated hurricane storm event. Ships in port will be encouraged by the Harbormaster to evacuate the Port well before the arrival of the storm. The crews are expected

to accompany their ships that leave port. The evacuation of Port Everglades' employees and tenants to their homes will occur in accordance with the Port Everglades Hurricane Procedure & General Disaster Plan & Continuity of Operations Manual.

#### *Number of Shelter Spaces Available*

Port Everglades is located entirely in the Hurricane Vulnerability Zone; consequently, there are no existing or proposed shelter spaces in the PJA.

#### *Evacuation Routes*

It is anticipated that Eller Drive and Spangler Boulevard will continue to serve as the primary hurricane evacuation routes in the PJA. These two roadways provide direct access to the FIHS/SIS, which will be relied on to transfer personnel, commercial vehicles, and equipment away from the Hurricane Vulnerability Zone. The widening of Eller Drive to a four-lane roadway has improved PED's ability to evacuate the PJA in a timely manner.

#### *Transportation and Hazard Constraints on Evacuation Routes*

The primary constraint on the PJA evacuation routes is the susceptibility to flooding. Heavy rainfall, high tides, and storm surge associated with a hurricane could impact the availability of Eller Drive and Spangler Boulevard for use as evacuation routes. It is, therefore, imperative that PED and Port tenants secure their premises and evacuate their employees well before the inundation of the Port's evacuation routes by heavy rains and storm surge from an impending hurricane.

#### *Evacuation Times*

The Port Everglades Hurricane Procedure & General Disaster Plan & Continuity of Operations Manual anticipates that all Port administration and Port tenant personnel would be evacuated at least 12 hours before the anticipated landfall of a hurricane. This would allow sufficient time to evacuate the Port before the evacuation routes become impassable from flooding and storm surge.

### **Estimate of the Projected Impact on Hurricane Evacuation Planning**

#### *Anticipated Population Density*

Residential uses are not permitted in the Port Everglades Transportation Area future land use category of the Broward County Land Use Plan; therefore, no population density is anticipated in the PJA.

#### *Special Needs of the Elderly, Handicapped, and Hospitalized*

Residential uses are not permitted in the Port Everglades Transportation Area land use category of the Broward County Land Use Plan; therefore, no special needs of the elderly, handicapped, and hospitalized are anticipated in the PJA.

#### *Other Special Needs of the Existing and Anticipated Populations*

Residential uses are not permitted in the Port Everglades Transportation Area land use category of the Broward County Land Use Plan; therefore, no special needs of the existing and future populations are anticipated in the PJA.

### Measures that Could be Adopted to Maintain or Reduce Hurricane Evacuation Times

PED is carrying out the following measures to maintain or reduce hurricane evacuation times:

- Maintenance of Eller Drive as the primary evacuation route, together with close coordination between PED and the Broward County Emergency Management Division, to ensure the maintenance or reduction of hurricane evacuation times in the PJA.
- Annual reviews and updates of the Port Everglades Hurricane Procedure & General Disaster Plan & Continuity of Operations Manual, together with the participation by Port Everglades staff in Broward County's annual hurricane simulation exercises, to further the maintenance of effective hurricane preparedness in the PJA.
- A policy encouraging the early dismissal of non-essential Port personnel as a means of reducing hurricane evacuation times.

### Post-Disaster Redevelopment Analysis

#### *Existing and Proposed Land Use in High-Hazard Areas*

All existing and proposed land uses in the PJA are located in the CHHA. Therefore, following a major storm event, it is anticipated that most of the Port infrastructure would require redevelopment. Port Everglades is vital to the maintenance of South Florida's economy, necessitating the reconstruction of all damaged structures and infrastructures in the PJA to pre-storm conditions.

#### *Structures with a History of Repeated Damage*

There are no structures in the PJA with a history of repeated damage from coastal flooding or hurricanes; therefore, no action regarding this concern is required.

#### *Coastal or Shore Protection Structures*

Coastal or shore protection structures in the PJA include the jetties along the Port Everglades Entrance Channel, riprap along the shoreline of the Southport Turning Notch, and the vertical bulkheads that protect the berths in the PJA from prop wash. All of these structures would be affected by storm surge and high velocity waves during a hurricane storm event. Port Everglades is vital to the maintenance of South Florida's economy, necessitating the reconstruction of all damaged coastal or shore protection structures in the PJA to pre-storm conditions. USACE is responsible for maintaining the entrance channel jetties, while PED is responsible for maintaining the riprap and bulkheads in the PJA.

#### *Infrastructure in High-Hazard Areas*

All infrastructure in the PJA is located in the CHHA. Following a major storm event, any of the Port's above-ground infrastructure that is damaged would require redevelopment. Port Everglades is vital to the maintenance of South Florida's economy, necessitating the reconstruction of all damaged structures and infrastructure in the PJA to pre-storm conditions.

### *Beach and Dune Conditions*

The PJA's beaches and dunes are located entirely in Dr. Von D. Mizell-Eula Johnson State Park. The park includes an approximately 150-foot-wide beach with small secondary dune structures. This beach area would be subject to storm surge and high velocity waves during a hurricane storm event, which could drastically alter the location and amount of sand along the beach. The low beach elevation and insignificant dune structures could result in a breach of the ocean into the ICW during the storm's high tide. FDEP is responsible for the maintenance of state-owned parks and beaches and should coordinate with PWESD in developing a contingency plan for beach renourishment following a storm event.

## Analysis of Measures to Reduce Exposure to Hazards

### *Relocation*

There are no residential uses requiring relocation in the PJA. The Port and water-dependent non-residential uses in the PJA, by their nature, cannot be relocated. Uses such as ship berths, passenger and cargo terminals, petroleum storage tanks, cement storage silos, bulk and container cargo yards, warehouses, and administrative offices must remain in the PJA to insure the Port's and the South Florida region's continued economic viability. It is expected that any hurricane-related damage to these uses would be expediently repaired to their pre-storm conditions to reduce any resultant long-term economic loss.

### *Structural Modification*

No modifications to existing structures are recommended. All structures in the PJA have been built in accordance with existing building codes and will be rebuilt to pre-storm conditions in accordance with current building codes.

### *Public Acquisition*

No public acquisition of privately owned property in the PJA is recommended for the purpose of reducing the impact of natural hazards to the general public.

## Coastal High-Hazard Area

### *Analysis of the Potential for Relocating Threatened Infrastructures*

All infrastructure in the PJA is located in the CHHA. It is anticipated that much of the Port's infrastructure would require redevelopment following a major storm event. Port Everglades is vital to the maintenance of South Florida's economy, necessitating the reconstruction of all damaged structures and infrastructure in the PJA to pre-storm conditions. It can be concluded that, to preserve and protect the regional economy, there is no potential for relocating threatened infrastructure located in the PJA.

## Beach and Dune Analysis

### Past Trends in Erosion and Accretion

Sand material has historically been accreting on the north side of the Port Everglades Entrance Channel jetties with erosion occurring on the south side of the jetties. Consequently, approximately 7,000 cubic yards per year of sand material are deposited in the vicinity of the Port Entrance Channel. To date, this has not restricted or impaired navigational operations. In addition, winter storms tend to erode the beaches to the south, requiring periodic renourishment.

### Effects of Shore Protection Structures

The Port Everglades Entrance Channel is lined by rock jetties composed of large boulders that aid in maintaining channel project depth. Due to the prevailing southerly littoral current, sand material is deposited on the north side of the jetties with scouring occurring on the south side of the jetties.

### Measures Which Could Protect or Restore Beaches

The Sand Bypass Project exemplifies a long-term strategy for regional resilience in Southeast Florida, with substantial physical, economic, and environmental benefits to the Broward County Federal Shore Protection Project and Port Everglades Federal Navigation Channel. The Sand Bypass Project will aid in serving as a supplemental sand source for the Broward County Segment III Shore Protection Project, which will provide for an economical, local source of sand in a county where local sources necessary for continued beach restoration and maintenance are nearly depleted. Implementation of the Sand Bypass Project will result in the following benefits:

- Increase the resilience of critical natural resources and existing infrastructure;
- Reduce the impacts of Port Everglades to the shorelines south of the inlet;
- Provide a sustainable beach compatible sand source for the highly erosional shorelines south of the inlet – Segment III of the Broward County Federal Shore Protection Project;
- Fortify and sustain storm protection for critical infrastructure and valuable property including the USCG Station, port facilities, and over \$345 million in property;
- Reduce shoaling in the Federal navigation channel;
- Preserve habitat and nesting areas for three endangered and four threatened species in one of the most highly developed urban areas in the state;
- Maintain opportunity for public outdoor recreation at Dr. Von D. Mizell-Eula Johnson State Park, serving over half a million residents and visitors annually; and
- Provide the most environmentally sensitive approach to beach management in an area of rich coastal and nearshore reef resources.

Initial dredging activities for the Sand Bypass Project began in October 2025, with project completion estimated in 2027.

## Capacity and Need for Public Access Facilities

### *Analysis of the Capacity and Need for Public Access Facilities*

#### *Public Access Points to Beach or Shoreline through Public Lands*

The beaches and shoreline in the PJA are located in the state-owned and maintained Dr. Von D. Mizell-Eula Johnson State Park. Public access to beaches and the ocean front is presently adequate. No deficiencies are identified which would require improvements to increase public access to beaches and the shoreline in the PJA. The security measures imposed by state and federal mandates have restricted public access to the Port itself. In addition, USCBP regulations require that the Port control public access to the dockside areas. Even without these regulations, unlimited public access to the working harbor area of the Port poses a danger to public safety and must be controlled. Port operations involve the use of specialized off-road equipment, which may cause delays in normal traffic flow in the PJA. In addition, dock-side operations include the use of heavy equipment, such as gantry cranes, mobile stick cranes, hustler tractors, and port packer front-end loaders which facilitate the loading, unloading, storage, and movement of cargo and containers.

#### *Private Property Open to the General Public*

The only private property within the secure zone of the PJA which was once open to the general public – the former restaurant Burt and Jacks – discontinued operation on the Port many years ago. Because of the present federal and state security mandates, no other private property open to the general public has been established and no such facility is envisioned within the secure zone of the PJA.

#### *Other Legal Means of Public Access*

Access to Port Everglades, which was once an open port, is now controlled by four manned security gates in compliance with federal and state security mandates. The general public, therefore, no longer has unlimited legal access to the PJA and must show appropriate identification and have a specific Port-related purpose for accessing the Port.

#### *Parking Facilities*

To accommodate the anticipated needs of future cruise passengers, the 5-year Master Plan includes a new multi-level parking structure adjacent to Cruise Terminal 29 in Midport (capacity to be determined). The 5-year Master Plan also includes the first phase of the New Midport Parking Structures project, which features a multi-level parking structure with 2,500 spaces in Lot C adjacent to Cruise Terminal 19. The second phase of this project, to be carried out in the 10-year Vision Plan, includes an additional 2,500-space parking structure in Lot B adjacent to Cruise Terminal 18 in Midport. The 20-year Vision Plan includes additional proposed parking capacity at the existing Heron Garage in Northport adjacent to Cruise Terminals 2 and 4, with two new levels of parking capacity proposed to add approximately 875 spaces to the existing parking structure.

#### *Coastal Roads and Facilities Providing Scenic Overlooks*

The PJA contains several roads that provide scenic overlooks of the working harbor; these are not, however, accessible to the general public. In addition, the Port maintains Marinelli Gardens, a small park located at Eller Drive on the FPL Discharge Canal. Scenic overlooks are not, however, compatible with commercial port operations, particularly in the era of heightened security; therefore, no additional scenic overlooks are recommended in the working harbor area.

#### *Marinas*

The privately owned and operated dry marina, previously located in the PJA, has moved from the Port; but a small parcel in the southwest corner of the Port has been identified for a potential dry-storage facility in the future. The Florida Marine Patrol operates a dry storage and repair facility adjacent to the FPL Discharge Canal. In addition, small boat docks are maintained by the U.S Navy, USCG, and Nova Southeastern University at the northern end of Dr. Von D. Mizell-Eula Johnson State Park. These operations are expected to continue without impacting Port operations or living marine resources.

#### *Boat Ramps*

The only public boat ramps in the PJA are located in Dr. Von D. Mizell-Eula Johnson State Park. A boat ramp is also located at the Florida Marine Patrol facility, which is utilized exclusively for patrol boats. Public boat ramps are not compatible with commercial port operations and are not recommended within the working harbor area.

#### *Public Docks*

The only public dock in the PJA is located in Dr. Von D. Mizell-Eula Johnson State Park. Public docks are not compatible with commercial port operations and are not recommended within the working harbor area.

#### *Fishing Piers*

There are no fishing piers in the PJA; however, there is a catwalk along the south jetty of the Port Everglades Entrance Channel which may be accessed for fishing. As the PJA is a manatee sanctuary designated by state statute, fishing is a prohibited use. Further, fishing piers are not compatible with commercial port operations and are, therefore, not recommended within the working harbor area.

#### *Fishing Area*

As the PJA is a manatee sanctuary designated by state statute, land-based fishing is a prohibited use west of the east line of the ICW. It is recommended that land-based fishing continue to be prohibited within the PJA, with the exception of the catwalk along the south jetty of the Port Everglades Entrance Channel. In addition, fishing from small boats is not compatible with the navigation of large ships and tugs in a confined harbor.

## Coordination of Above Analysis with Recreation and Open Space Element and the County-Wide Manatee Protection and Boat Facility Siting Plan (If Applicable)

The PJA includes portions of Fort Lauderdale, Hollywood, Dania Beach, and unincorporated Broward County. In accordance with the Interlocal Agreement dated May 6, 1994, between Broward County and the affected municipal jurisdictions, the Port will continue to be responsible for maintaining access to facilities in the PJA consistent with federal and state security mandates. The PJA includes the marina-like facilities operated by USCG, the U.S. Navy, and Nova Southeastern University in the northern portion of Dr. Von D. Mizell-Eula Johnson State Park; these are not public facilities.

## Infrastructure Analysis

### Analysis of Existing Activity and Infrastructure

#### *Demand Upon, Capacity of, and Areas Served by Roadways*

Table 9 – Table 12 provide a summary of vehicular traffic conditions at key locations within the PJA using data from October 2022 to October 2023. The source of all data shown is FDOT as compiled for the Port Everglades 2024 M/VP Update. The Port Everglades Cruise Passenger Survey 2022/2023, published in May 2023, provided valuable insights into the modes of transportation used to access Port Everglades. The top three methods identified were taxi/rideshare, personal vehicle, and rental car, accounting for more than 80 percent of Port traffic. Shuttles from neighboring hotels, transit hubs, or the cruise line coaches accounted for the remaining traffic.

All gates, except the McIntosh Road gate, exhibit similar truck traffic volume percentages, with approximately 40 percent of the traffic observed being trucks. The precise distribution based on the annual average daily traffic (AADT) data including all types of vehicles is presented below. It is noted that the entering and exiting AADT results based on 2023 data are consistent with the results of the 2020 M/VP Update. The data analysis shows that during an average 24-hour period, approximately 21,980 vehicles pass through the four security gates analyzed between the third quarter (October) of 2022 and the third quarter (October) of 2023.

Table 9: Traffic Conditions at Eller Drive, East of Gate (October 2022 – October 2023)

Measure	Entry (Eastbound)	Exit (Westbound)	Total	Difference
Annual Average Daily Traffic (AADT)	4,810	4,035	<b>8,845</b>	775
AM Peak Hour (Entry/Exit)	9 AM – 10 AM	9 AM – 10 AM	-	-
AM Peak Hour (Total)	9 AM - 10 AM	9 AM - 10 AM	-	-
Max Peak AM Volume	1,059	1,286	<b>2,345</b>	-227
PM Peak Hour (Entry/Exit)	12 PM – 1 PM	12 PM – 1 PM	-	-
PM Peak Hour (Total)	12 PM – 1 PM	12 PM – 1 PM	-	-
Max Peak PM Volume	934	725	<b>1,659</b>	209
Truck Percentage	40%	35%	-	-
Peak Day (ADT)	8,640	8,399	<b>17,039</b>	241

Table 10: Traffic Conditions at Eisenhower Boulevard, South of SE 17th Street  
(October 2022 – October 2023)

Measure	Entry (Southbound)	Exit (Northbound)	Total	Difference
Annual Average Daily Traffic (AADT)	1,755	1,845	<b>3,600</b>	-90
AM Peak Hour (Entry/Exit)	11 AM – 12 PM	11 AM – 12 PM	-	-
AM Peak Hour (Total)	11 AM – 12 PM	11 AM – 12 PM	-	-
Max Peak AM Volume	891	725	<b>1,616</b>	166
PM Peak Hour (Entry/Exit)	12 PM – 1 PM	12 PM – 1 PM	-	-
PM Peak Hour (Total)	12 PM – 1 PM	12 PM – 1 PM	-	-
Max Peak PM Volume	831	710	<b>1,541</b>	121
Truck Percentage	34%	36%	-	-
Peak Day (ADT)	7,594	7,052	<b>14,646</b>	542

Table 11: Traffic Conditions at McIntosh Road, South of Eller Drive  
(October 2022 – October 2023)

Measure	Entry (Southbound)	Exit (Northbound)	Total	Difference
Annual Average Daily Traffic (AADT)	2,240	2,286	<b>4,526</b>	-46
AM Peak Hour (Entry/Exit)	7 AM – 8 AM	11 AM – 12 PM	-	-
AM Peak Hour (Total)	11 AM – 12 PM	11 AM – 12 PM	-	-
Max Peak AM Volume	392	366	<b>758</b>	26
PM Peak Hour (Entry/Exit)	12 PM – 1 PM	4 PM – 5 PM	-	-
PM Peak Hour (Total)	1 PM – 2 PM	1 PM – 2 PM	-	-
Max Peak PM Volume	344	438	<b>782</b>	-94
Truck Percentage	52%	53%	-	-
Peak Day (ADT)	3,549	3,621	<b>7,170</b>	-72

Table 12: Traffic Conditions at Spangler Boulevard, West of Miami Road  
(October 2022 – October 2023)

Measure	Entry (Eastbound)	Exit (Westbound)	Total	Difference
Annual Average Daily Traffic (AADT)	3,358	1,652	<b>5,011</b>	1,706
AM Peak Hour (Entry/Exit)	9 AM – 10 AM	9 AM – 10 AM	-	-
AM Peak Hour (Total)	9 AM – 10 AM	9 AM – 10 AM	-	-
Max Peak AM Volume	973	638	<b>1,611</b>	335
PM Peak Hour (Entry/Exit)	1 PM – 2 PM	4 PM – 5 PM	-	-
PM Peak Hour (Total)	4 PM – 5 PM	4 PM – 5 PM	-	-
Max Peak PM Volume	1,014	805	<b>1,819</b>	209
Truck Percentage	38%	36%	-	-
Peak Day (ADT)	7,534	4,028	<b>11,562</b>	3,506

*Demand Upon, Capacity of, and Areas Served by Bridges or Causeways*

A 4-lane bridge along Eller Drive spans the FPL Discharge Canal. This bridge was expanded from a 2-lane bridge to a 4-lane bridge as part of the widening of Eller Drive. A secondary bridge also spans the FPL Discharge Canal to facilitate truck traffic between Midport and Southport and eliminate the need for trucks and other vehicles to pass through security between the two destinations. The rebuilt SE 17th Street Causeway Bridge, with its higher vertical clearance, helps relieve congestion in proximity to the Port.

*Demand Upon, Capacity of, and Areas Served by Sanitary Sewer Facilities*

The adopted Large User Agreement between the City of Fort Lauderdale and PED obligates the City to accommodate all existing and future sewage treatment demand in the PJA throughout the planning period. It is anticipated that the sewage treatment plant serving the Port will have adequate available capacity to meet Port needs through at least the near-term (5-year) planning horizon.

*Demand Upon, Capacity of, and Areas Served by Potable Water Facilities*

The adopted Large User Agreement between the City of Fort Lauderdale and PED obligates the City to accommodate all existing and future potable water demand in the PJA throughout the planning period. It is anticipated that the potable water plants serving the Port will have adequate available capacity to meet Port needs through at least the near-term (5-year) planning horizon. In recent years, several water quality samples taken at various buildings within Port Everglades have shown the Port to be below the action level for lead in the water distribution system. The Port has not had an exceedance since June 16, 2020, with five consecutive sampling events since then with no exceedances. This recent success has allowed the Port to be placed in a reduced monitoring status, meaning the Port is now only required to sample once every three years. Additionally, in response to the Lead and Copper Rule, Port Everglades has completed a corrosion study, a nitrification control plan, has installed point-of-use filters in water fountains and kitchen sinks, and has implemented a Public Notice Awareness program as required in the Lead and Copper Rule and in coordination with FDEP. Based on this information, Port Everglades developed a water distribution model that accounted for water demand flows for existing infrastructure. Port Everglades will continue to monitor and manage potable water quality through the planning horizon.

*Demand Upon, Capacity of, and Areas Served by Solid Waste Facilities*

Since Port Everglades has not experienced any difficulties in solid waste collection and disposal, it may be assumed that capacity exists to handle the Port's existing needs. Due to the long-term capacity of the Southwest Regional Landfill and the South County Resource Recovery Facility, it is expected that there will be sufficient capacity to accommodate Port Everglades' anticipated solid waste demands through at least the near-term (5-year) planning horizon.

*Demand Upon, Capacity of, and Areas Served by Man-Made Drainage Facilities*

Maintaining its drainage system in accordance with its NPDES permit, Port Everglades expects it will be able to accommodate all existing and anticipated drainage demand in the PJA without impacting

natural resources. Periodic flooding along some of the Port's internal roadways and upland areas during peak rainstorm events – especially when these events coincide with high tides – may require additional improvements and maintenance. It is recommended that the Port continue to monitor the man-made drainage system to identify and mitigate inadequate drainage conditions when they occur. The Port may also explore increasing the amount of on-site stormwater retention to reduce the rate of runoff entering the system.

*Demand Upon, Capacity of, and Areas Served by Public Shore Protection Structures*

The jetties along the Port Everglades Entrance Channel and the riprap shore-protection structures placed along the Southport Turning Notch have been adequately protecting the Port's channel and berth depths for many years, which is necessary for the continued economic viability of the Port. These assets have also been adequately protecting adjacent upland areas from erosion resulting from waves and boat wakes. The Port's upland areas will continue to be protected during the planning period by existing and/or replacement infrastructure as part of the USACE Channel Deepening and Widening project. This project will make improvements to existing shore protection structures. In the case of the Southport Turning Notch, the former riprap was replaced with environmentally friendly bulkheads as a part of the Southport Turning Notch Expansion project completed in 2022.

*Demand Upon, Capacity of, and Areas Served by Beach Renourishment Projects*

As recommended in the previous Deepwater Port Component, PED is continuing to encourage and coordinate with PWESD with respect to constructing a sand bypass system to transport sand from the north side of the Port's Entrance Channel north jetty to the south side of the south jetty. This project is under construction as of October 2025, with an anticipated completion date of late 2027.

*Analysis of Future Activity and Infrastructure as Proposed in the 2024 Master/Vision Plan Update*

*Demand Upon, Capacity of, and Areas Served by Roadways*

Projected increases in cruise passenger and containerized cargo throughput at the Port over the 20-year planning horizon extending through 2044 suggest a significant rise in the volume of traffic entering and exiting the facility. This growth is anticipated to have a variety of impacts on on-Port traffic conditions. The analysis presented below is a quantitative assessment of projected growth in truck and other vehicular traffic at the Port, focusing on key milestone years as part of the 2024 M/VP Update.

Historical traffic growth rates were calculated based on historical data collected from Florida Traffic Online (FTO) stations. The data analysis indicated that all monitored stations exhibit a general trend of traffic growth; however, specific stations demonstrated markedly higher growth rates compared to others. To establish a reliable growth framework, a linear progression model was employed, resulting in a determined system growth rate of 1.79 for the Port area. **Table 13** details the calculated growth rates for each of these traffic stations. This system growth rate is consistent with the lower end of the growth projections derived from market assessment mid-case scenario conducted as part of Element

2, thus ensuring continuity and alignment in future projections. In consideration of historical data, it is essential to recognize the potential for unconstrained growth as indicated in Market Scenario 1, even if this may not be the most realistic expectation. To create a more balanced forecast, the higher end of the mid-case scenario growth rates (4.30 percent) was adopted for this analysis. This approach will help establish a “worst-case” scenario for predicting passenger traffic on roadways providing direct access to Port Everglades. Even at the upper limits of projected growth, infrastructure planning must account for potential increases in traffic volume. This analysis will ensure that safety, efficiency, and operational capabilities are maintained as demand increases.

Table 13: Historical Traffic Volume Growth Rates for Port-Adjacent FTO Stations

Location	Station	Historical Trend Analysis
Southeast 17 <sup>th</sup> Street (east of Eisenhower Boulevard)	860429	0.46%
Southeast 17 <sup>th</sup> Street (west of Eisenhower Boulevard)	865306	0.43%
US-1 (north of SR 84)	860428	0.00%
US-1 (south of SR 84)	865002	1.59%
I-95 Eastbound west of McIntosh Road	862810	0.05%
Northbound Off Ramp to I-595 Eastbound	864158	4.07%
I-95 Westbound west of McIntosh Road	864508	5.92%
-	<b>Average</b>	<b>1.79%</b>

AADT estimates for trucks and passenger vehicles have been developed and calculated separately to allow for a nuanced understanding of vehicular flow dynamics. Table 14 through Table 16 illustrate a comprehensive view of the 2023 baseline year compared to projected traffic volumes for the years 2028, 2033, 2038, 2043, 2045, and 2048 for both AADT and peak average daily traffic (ADT). By analyzing these projections, stakeholders can anticipate trends in traffic demand, which will inform infrastructure development and operational planning at the Port.

Table 14: Port Everglades Traffic Projections per Gate - AADT

Gate	AADT (2023)	AADT (2028)	AADT (2033)	AADT (2038)	AADT (2043)	AADT (2045)	AADT (2048)
Eller Drive Gate	8,845	10,747	12,648	14,550	16,452	17,212	18,353
Spangler Boulevard Gate	5,010	6,087	7,164	8,241	9,319	9,749	10,396
McIntosh Road Gate	4,526	5,499	6,472	7,445	8,418	8,808	9,391
Eisenhower Boulevard Gate	3,600	4,374	5,148	5,922	6,696	7,006	7,470
<b>Combined Total</b>	<b>21,980</b>	<b>26,706</b>	<b>31,431</b>	<b>36,157</b>	<b>40,883</b>	<b>42,773</b>	<b>45,609</b>

Table 15: Port Everglades Traffic Projections per Gate - Peak ADT

Gate	Peak ADT (2023)	ADT (2028)	ADT (2033)	ADT (2038)	ADT (2043)	ADT (2045)	ADT (2048)
Eller Drive Gate	17,039	20,702	24,366	28,029	31,693	33,158	35,356
Spangler Boulevard Gate	11,562	14,048	16,534	19,019	21,505	22,500	23,991
McIntosh Road Gate	7,170	8,712	10,253	11,795	13,336	13,953	14,878
Eisenhower Boulevard Gate	14,646	17,795	20,944	24,093	27,242	28,501	30,390
<b>Combined Total</b>	<b>50,417</b>	<b>61,257</b>	<b>72,096</b>	<b>82,936</b>	<b>93,776</b>	<b>98,111</b>	<b>104,615</b>

Table 16: Port Everglades – Roadway Network Traffic Projections

Location	Historical AADT (2023)	Adopted Growth Rate	(AADT) 2028	(AADT) 2033	(AADT) 2038	(AADT) 2043	(AADT) 2045	(AADT) 2048
Southeast 17th Street (east of Eisenhower Boulevard)	33,500	4.30%	40,703	47,905	55,108	62,310	65,191	69,513
Southeast 17th Street (west of Eisenhower Boulevard)	44,000	4.30%	53,460	62,920	72,380	81,840	85,624	91,300
US-1 (north of SR 84)	58,000	4.30%	70,470	82,940	95,410	107,880	112,868	120,350
US-1 (south of SR 84)	75,000	4.30%	91,125	107,250	123,375	139,500	145,950	155,625
I-95 Eastbound (west of McIntosh Road)	7,400	4.30%	8,991	10,582	12,173	13,764	14,400	15,355
Northbound Off Ramp to I-595 Eastbound	500	4.30%	608	715	823	930	973	1,038
I-95 Westbound (west of McIntosh Road)	1,000	4.30%	1,215	1,430	1,645	1,860	1,946	2,075

The upward trend in truck traffic at Port Everglades can be attributed to several key factors, including the rising demand for cold storage, the expansion of trade, operations associated with liquefied natural gas (LNG) bunkering, the enhancement of intermodal rail services, and nearshoring trends. Since 2014, Florida's containerized imports of perishable goods have experienced a consistent annual growth rate

of 5 percent, with Port Everglades managing a substantial portion (32 percent) of these imports. This trend is anticipated to escalate the demand for trucking services related to perishable goods.

Furthermore, a projected annual increase of 6 percent in cargo tonnage across Florida's ports, including Port Everglades, will lead to heightened trucking activities linked to the overall rise in cargo volumes. LNG bunkering operations, particularly driven by Crowley's fleet expansion, will necessitate additional truck trips to supply LNG to vessels, thereby further contributing to the growth of truck traffic. It is also likely there may be LNG-fueled container yard equipment that will contribute to this traffic, as well as other low-carbon fuels such as propane.

For the purposes of this analysis and given that cold storage demand and trade growth are the predominant factors influencing truck traffic expansion, a conservative approach has been adopted with a projected growth rate of 6 percent annually. This estimate assumes no constraints and expects Port Everglades to continue operating at its current optimal efficiency. **Table 17** and **Table 18** present forecasted monthly average and monthly peak truck volumes, respectively.

Table 17: Port Everglades Truck Traffic Projections per Gate – Monthly Average

Peak	(AADT) 2023	(AADT) 2028	(AADT) 2033	(AADT) 2038	(AADT) 2043	(AADT) 2045	(AADT) 2048
Eller Drive Eastbound/ Inbound	41,703	50,669	59,635	68,601	77,567	81,153	86,533
Eller Drive Westbound/ Outbound	39,279	47,724	56,169	64,614	73,058	76,436	81,503
Eisenhower Boulevard Security Gate Northbound	16,270	19,768	23,267	26,765	30,263	31,662	33,761
Eisenhower Boulevard Security Gate Southbound	16,562	20,122	23,683	27,244	30,804	32,229	34,365
Spangler Boulevard Security Gate Inbound	16,867	20,493	24,119	27,745	31,372	32,822	34,998
Spangler Boulevard Security Gate Outbound	15,411	18,724	22,037	25,351	28,664	29,989	31,977
Mcintosh Road Security Gate Inbound	36,325	44,135	51,945	59,755	67,565	70,689	75,375
Mcintosh Road Security Gate Outbound	37,054	45,021	52,987	60,954	68,920	72,107	76,887

Table 18: Port Everglades Truck Traffic Projections per Gate – Monthly Peak

Average	(AADT) 2023	(AADT) 2028	(AADT) 2033	(AADT) 2038	(AADT) 2043	(AADT) 2045	(AADT) 2048
Eller Drive Eastbound/Inbound	49,032	59,574	70,116	80,658	91,200	95,416	101,741
Eller Drive Westbound/Outbound	42,398	51,514	60,629	69,745	78,860	82,507	87,976
Eisenhower Boulevard Security Gate Northbound	18,799	22,841	26,883	30,924	34,966	36,583	39,008
Eisenhower Boulevard Security Gate Southbound	19,195	23,322	27,449	31,576	35,703	37,353	39,830
Spangler Boulevard Security Gate Inbound	19,279	23,424	27,569	31,714	35,859	37,517	40,004
Spangler Boulevard Security Gate Outbound	19,028	23,119	27,210	31,301	35,392	37,028	39,483
Mcintosh Road Security Gate Inbound	42,628	51,793	60,958	70,123	79,288	82,954	88,453
Mcintosh Road Security Gate Outbound	42,568	51,720	60,872	70,024	79,176	82,837	88,329

Given the traffic projections detailed above, the projects included in the 2024 M/VP Update generally align with the following key objectives:

- Increase available berthage/acreage and consolidate land for common uses as a means to increase the Port’s capacity and more effectively meet future market demand,
- Speed the flow of trucks moving in and out of the Port, particularly the Southport container terminals, the ICTF, and the Port Everglades International Logistics Center (ILC), thereby enhancing operational efficiency,
- Improve safety and security within the Port and reduce emissions by reducing queuing times and lessening overall traffic congestion within and adjacent to the Port,
- Increase modal options for moving both passengers and cargo into and out of the Port, and
- Enhance the transportation network within and surrounding the Port by providing users and members of the general public with alternative routes.

The following list includes transportation-related projects that were considered for their ability to improve traffic flow within the Port and have been included in the 5-year Master Plan and 10- and 20-year Vision Plans.

- **New Petroleum Entrance South of Spangler:** Create a dedicated access point for liquid bulk trucks at 28th Street and US-1, with an exit to Eller Drive.

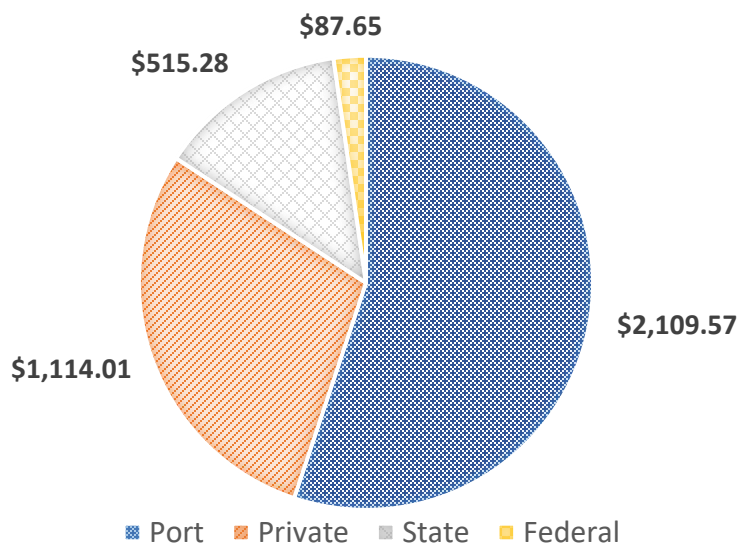
- **Griffin Road Access:** Extend Griffin Road to the east to provide a new southwest gate access point for container trucks; the direction of traffic flow between this new gate and Eller Drive would need to be determined.
- **Realignment of McIntosh Road:** Optimize the current McIntosh Road alignment to provide an efficient footprint for improved traffic flows and elimination of the existing gate complex.
- **Eller Drive Gate Reconfiguration:** Reconfiguration of the gate complex to improve traffic processing, which could include separate entry and exit gate facilities, increasing entry lanes and decreasing exit lanes (in both directions), addition of automated systems, and potential changes in vehicle processing procedures and security protocols.

#### Funding Sources for Master/Vision Plan Capital Program

The 2024 M/VP Update assumes that Port Everglades will continue to be successful not only in securing state and federal grant dollars but in achieving a greater degree of public/private co-investment in its facilities in partnership with its tenants and other users. These third-party partnerships are vital to the feasibility of the overall M/VP. The Port cannot afford to develop all projects included in the 2024 M/VP Update using only Port funds, and it is a reasonable expectation that the Port can share the costs of these projects with other parties given the number of public/private co-investment precedents that exist for both cruise and cargo projects at other ports across the U.S.

The 2024 M/VP Update assumes that Port Everglades will be responsible for roughly two thirds (almost \$2.5 billion) of the over \$3.82 billion overall capital improvement program included in the 2024 M/VP Update. **Figure 20** identifies minimum third-party funds that are expected to be available to support the implementation of the proposed 5-year Master Plan and 10- and 20-year Vision Plans, as well as the 20-plus-year horizon.

Figure 20: 20+-Year Distribution of Capital Contributions to 2024 M/VP Update  
(Millions)



In addition to the non-Port funds identified in **Figure 20**, there will be numerous opportunities to pursue additional state and federal funds during the coming 20 years through a range of discretionary grant and loan programs. Opportunities that were newly created or expanded through the federal Infrastructure Investment and Jobs Act (IIJA) include Better Utilizing Investments to Leverage Development grants, Nationally Significant Multimodal Freight & Highway Projects grants, Reduction of Truck Emissions at Port Facilities grants, and U.S. Maritime Administration Port Infrastructure Development grants. Beyond the IIJA, additional federal funding opportunities include USEPA Diesel Emission Reduction Act grants and Transportation Infrastructure Finance and Innovation Act loans, among other programs. Additional grants are also available at the state level through FDOT and FSTED.

Most federal funds are awarded through highly competitive application and lobbying processes, meaning there is no guarantee that the Port will be successful in securing additional Federal funding for its projects. However, several ports – including at least two in Florida – have been very successful in securing competitive federal grant awards so the Port should continue to pursue such opportunities aggressively using a strategic approach that increases the chance of success. Additionally, while the IIJA created new funding programs and expanded existing programs that already supported ports and their infrastructure, these funds are generally only available through federal fiscal year 2026. Congressional action will be required to advance a new surface transportation reauthorization bill that will set parameters for future discretionary grant programs. Given the uncertainty around the timeline of Congressional action and the contents of any new bill, the Port should continue to monitor this topic to stay abreast of potential future changes in the federal funding landscape.

It may also be possible for the Port to achieve higher levels of direct investment by Southport tenants to support the additional work required to consolidate land, improve operations and increase overall container terminal throughput there. Direct investments from the cruise lines should also be considered for development/redevelopment of the cruise terminals, especially for the proposed Midport projects that include Cruise Terminals 18, 19, 21, 26, and 29. Such opportunities should be explored on an ongoing basis and integrated into the lease negotiation process. Federal grants from the Build America Bureau are available through the Innovative Finance and Asset Concession grant program that may help support the exploration of public-private partnerships or other similar arrangements between the Port and its tenants.

## Deepwater Port Infrastructure

### *In-Water Facilities*

The in-water facilities to be improved during the 5- and 10- year planning periods are identified above.

### *Maintenance of In-Water Facilities*

Port Everglades will continue to perform regular depth soundings throughout the long-term planning horizon to monitor the siltation rate and depth changes at the Port's berths and in the turning basins. These facilities will be maintained when the project depth requirements may become compromised through siltation, seawall undermining, and prop backwashing.

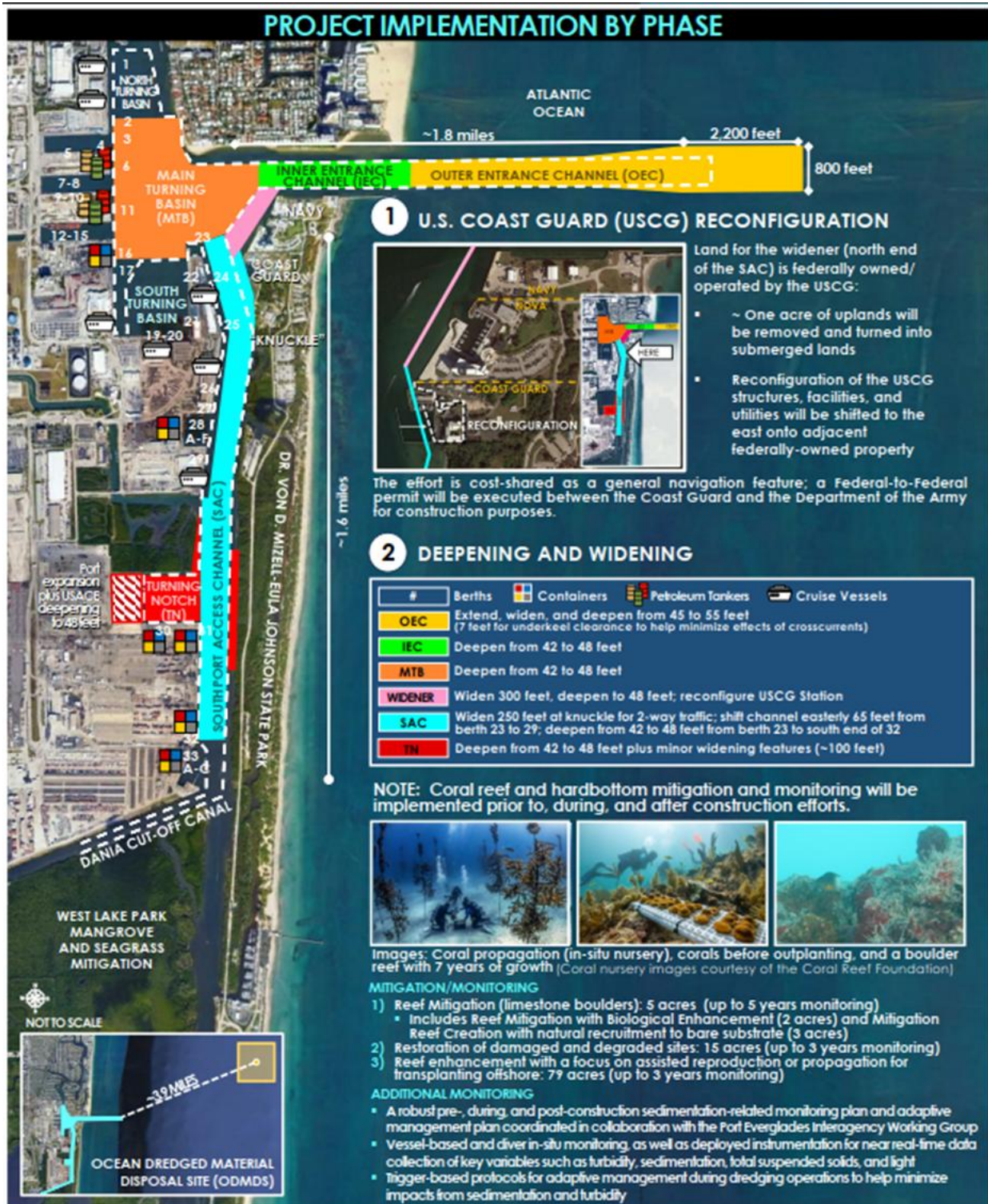
Maintenance of the Port's bulkheads is essential to its continued economic viability. The replacement of many existing bulkheads is provided for through the 2024 Update to the Port Everglades M/VP, with bulkhead replacements scheduled over the 5-, 10-, and 20-year planning periods according to anticipated maintenance needs.

### *Management of Dredged Material*

The USACE Channel Deepening and Widening project has been in the planning stage for more than 20 years. This project calls for deepening the Port's navigational channels and widening the ICW along the northeast side of the channel to allow larger vessels to access Southport in the future, including while one or more cruise ships are berthed in Midport at Cruise Terminals 25, 26, and/or 29. This project was authorized for construction through the Water Resources Development Act of 2016 and remains in the permitting phase as of October 2025. In addition to widening the Port Everglades channel, the Project calls for deepening and widening the Outer Entrance Channel from an existing 45-foot project depth over a 500- foot channel width to a 55-foot depth over an 800-foot channel width. The project will also deepen the Inner Entrance Channel and Main Turning Basin from 42 feet to 48 feet (with a two-foot overdredge allowance) and widen the channels within the Port to increase the margin of safety for ships transiting to berth. The total estimated cost is \$1.35 billion as of September 2023, with an estimated \$494 million in funding coming from the Port. Crucially, widening and deepening the channel is projected to create 4,789 construction jobs in the near term, and 1,491 regional jobs when cargo usage is operating at full capacity (i.e., 10 years after completion).

As previously discussed, the existing ODMDS has been designated to accommodate dredged material from periodic maintenance events in the Port. However, preliminary results of the modeling conducted in 2009 by the USACE regarding the capacity of the existing ODMDS indicated that it is insufficient in size to contain the potential volume of dredge material resulting from the Port Everglades deepening and widening project (not to exceed 6.63 million cubic yards). USACE and USEPA worked cooperatively on the development of an Environmental Assessment supporting the ODMDS expansion. **Figure 21** shows the proposed location of the ODMDS approximately 3.9 nautical miles from the Port's entrance channel. The Southport Turning Notch Expansion at existing water depth is a separate project from the USACE Deepening and Widening project and is the sole responsibility of the Port, as is management of dredged material associated with the project.

Figure 21: USACE Channel Deepening and Widening Project



Source: AECOM. Note: For planning purposes only.

#### *Hazardous Material Handling and Cleanup*

The Port's procedures for the handling and disposal of regulated or hazardous materials in the PJA have been successful in meeting federal, state, and local government standards. It is recommended that these procedures be annually updated to ensure consistency with current plans and procedures of the Broward County Emergency Management Division.

#### *Handling and Cleanup of Petroleum Products*

The Port's procedures for the handling and cleanup of petroleum products in the PJA have been successful in meeting federal, state and local government standards. It is recommended that these procedures be annually updated to ensure consistency with current standards and protocols as well as the current plans and procedures of the Broward County Emergency Management Division.

#### *Requirements for Maintaining In-Water Facilities and for Management of Dredged Material from Both Maintenance and Expansion*

Requirements for maintaining in-water facilities and for the management of dredged material from both maintenance and expansion are discussed above.

#### *Impact of Port Maintenance and Expansion*

##### *Vegetative Cover, Wetlands, and Wildlife Habitats*

The Port maintenance and expansion projects proposed in the 2024 M/VP Update will have minimal impact on the existing natural resources in the PJA. The proposed water-dependent and water-related Port infrastructure improvements occur on urban land that contains no existing natural resources.

##### *Beaches and Dunes*

The Port maintenance and expansion projects proposed in the 2024 M/VP Update will have no impact on existing beaches and dunes in the PJA, which include only the northern beachfront of Dr. Von D. Mizell-Eula Johnson State Park. It is expected that any beach erosion associated with the impact of the Port Everglades Entrance Channel jetties will be continually monitored by FDEP and PWESD. Short-term storms tend to be more damaging to beaches and dunes than the ongoing littoral drift.

##### *Submerged Lands*

The Port maintenance and expansion projects proposed in the 2024 M/VP Update will have minimal impact on submerged lands in the PJA. The Port owns the submerged lands in the PJA that are not owned by the State of Florida. It is expected that no submerged lands in the PJA will be impacted, with the exception of periodic berth depth maintenance resulting from siltation, undermining by ship and tug propeller backwashing, and debris deposited by loading and unloading ships.

##### *Floodplains*

The Port maintenance and expansion projects proposed in the 2024 M/VP Update will have minimal impact on floodplains in the PJA. New development and redevelopment in upland portions of the PJA will continue to be constructed in compliance with the standards specified by the building codes and

land development regulations of the affected local government, including sea level rise projections, models, and requirements.

#### *Living Marine Resources*

The Port maintenance and expansion projects proposed in the 2024 M/VP Update will have minimal impact on living marine resources. The Port Everglades manatee sanctuary, as designated by state statute, will continue to allow the safe haven for the manatees that populate the FPL Discharge Channel during the winter months. PWESD and FDEP will continue to monitor the beachfront for sea turtle nests. In addition, the protection of offshore coral reefs will continue to be an important factor in the establishment of an ODMDS by USACE and USEPA as a part of the Channel Deepening and Widening project.

#### *Water Quality*

The Port maintenance and expansion projects proposed in the 2024 M/VP Update will have minimal impact on water quality in the PJA. The proximity of the PJA to the Atlantic Ocean facilitates strong tidal flushing which keeps the Port's water areas relatively free of pollutants.

#### *Water Quantity*

The Port maintenance and expansion projects proposed in the 2024 M/VP Update will have minimal impact on water quantity in the PJA. The Large User Agreement between the Port and the City of Fort Lauderdale ensures there will continue to be adequate potable water available concurrent with the impact of development within the PJA.

#### *Public Access*

The Port maintenance and expansion projects proposed in the 2024 M/VP Update will have minimal impact on public access to the PJA. Federal and state security measures restrict public access to the Port, and no new projects are proposed that would increase unrestricted access to Port facilities.

#### *Historic Resources*

The anticipated future expansion and operation of Port Everglades will have no impact on historic resources. Any new designation or identification of historic resources in the PJA will be protected in accordance with the Broward County Code.

#### *Land Use and Infrastructure of Adjacent Areas*

The PJA is generally bounded by the 17th Street Causeway to the north, West Lake Regional Park to the south, the Atlantic Ocean to the east, and US-1 and FLL to the west. This creates a self-contained, well-defined commercial port area. It is anticipated that the Port's future expansion and operations will have only minimal impact on adjacent land uses or adjacent infrastructure, with the exception of the Griffin Road Access project. This corridor, along with the included 7th Avenue and 10th Street corridors, are located immediately to the west of the Port and immediately adjacent to the southeast corner of FLL. Since the 5-year Master Plan calls for the extension of Griffin Road into Port Everglades to open up a secondary Southport access point with enhancements also being made to NE 7th Avenue

and 10th Street, there will be additional truck traffic on both of these roads in the future. Such impacts will be a function of final design and truck routing but adjacent land uses along both corridors are likely to be impacted to some degree.

It is recommended that compatibility between Port-related uses and any adjacent commercial and/or residential uses, including along these corridors as well as in the Northport area, be considered by the affected local jurisdiction during the land use amendment and development order review process.

Additionally, the SE 10th Avenue Property Redevelopment project will also have an impact on the land use and infrastructure of areas adjacent to the Port, as this site is located outside of the PJA near the southwest corner of the Port. While the final use of this site is to be determined, uses under consideration may potentially have impacts on the surrounding area. Uses under consideration include: the storage of empty containers and chassis; a container truck staging area for Southport; and the storage of non-containerized cargo, including cars (and other RORO), steel products, wood products, etc.

PED shall continue to coordinate regularly with BCAD and FAA to ensure that the new cranes proposed at Berths 30A/B/C and Berth 30E are compatible with FLL operations and height restrictions for that area of the Port.

The PJA includes portions of the municipalities of Fort Lauderdale, Hollywood, Dania Beach, and Broward County. The Interlocal Agreement dated May 6, 1994, among these respective jurisdictions identifies roles and responsibilities in the PJA. Chapter 163.3178(2)(k)(5) requires the adoption of a procedure by Broward County and the affected jurisdictions which will resolve any inconsistencies between the respective local government comprehensive plans and the Deepwater Port Component through a dispute resolution process. As provided under Chapter 186.509, FS, this procedure is to be utilized in the event the local government and Broward County are unable to resolve the inconsistencies. The dispute resolution process shall be consistent with the Broward County Intergovernmental Coordination Element.

## IMPLEMENTATION

### Authority

Development within Port Everglades may be subject to the land use and permitting requirements of Broward County and the cities of Dania Beach, Fort Lauderdale, and Hollywood. Development may also require licenses and permits from state and federal authorities, such as the Florida Department of Transportation, Florida Department of Environmental Protection, Florida Fish and Wildlife Conservation Commission, United States Fish and Wildlife Service, and United State Army Corps. of Engineers. The Port Everglades Department will coordinate with the appropriate agencies to secure all required license and permits.

1. Chapter 59-1157, Laws of Florida, as amended, defined the PJA and established Port Everglades Authority.
2. Administrative Code of Broward County, Chapter 32, adopted by the Broward County Board of Commissioners in 2001 and updated regularly since, specifies the powers and duties of the Port Everglades Department, together with the rules and regulations which apply within the PJA.
3. Chapter 9-429, Laws of Florida, provides for the assumption by the Broward County Board of County Commissioners of the powers and duties of the Port Everglades Authority.
4. Resolution No. 94-1302, adopted by the Broward County Board of County Commissioners, on October 25, 1994, incorporates the rules and regulations of the Port Everglades Authority into the Broward County Administrative Code.
5. Interlocal Agreement between the Municipalities of Hollywood, Fort Lauderdale, Dania Beach, and Broward County, dated May 6, 1994, defines the roles and responsibilities of the affected jurisdictions in the PJA.
6. PEDD specifies the zoning regulations applicable in the PJA which have been adopted by the municipalities of Hollywood, Fort Lauderdale, and Dania Beach.
7. Port Everglades Tariff Number 12, Rules and Regulations, Port Everglades, Florida, updated October 1, 2025.